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A

WEEKLY REVIEW OF MEDICINE.

EDITED BY
FRANK P. FOSTER, M.D.

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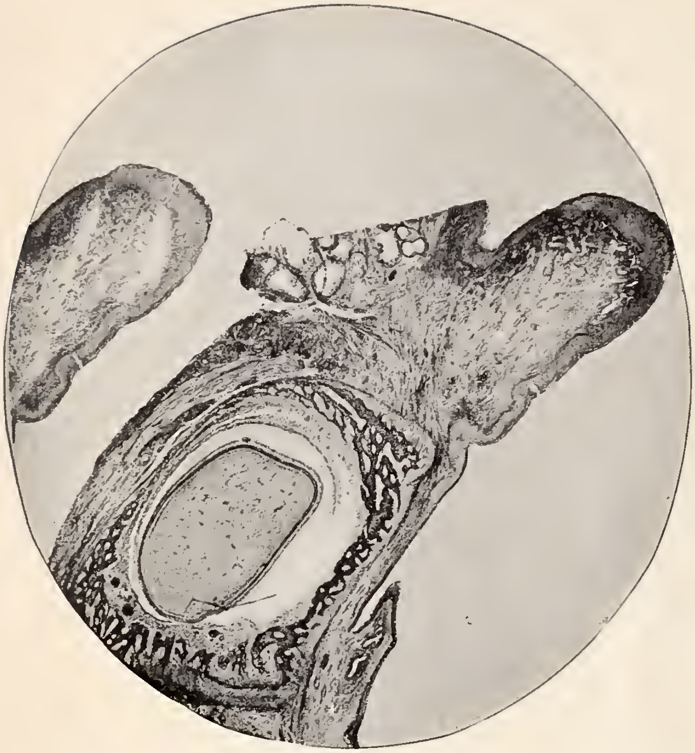

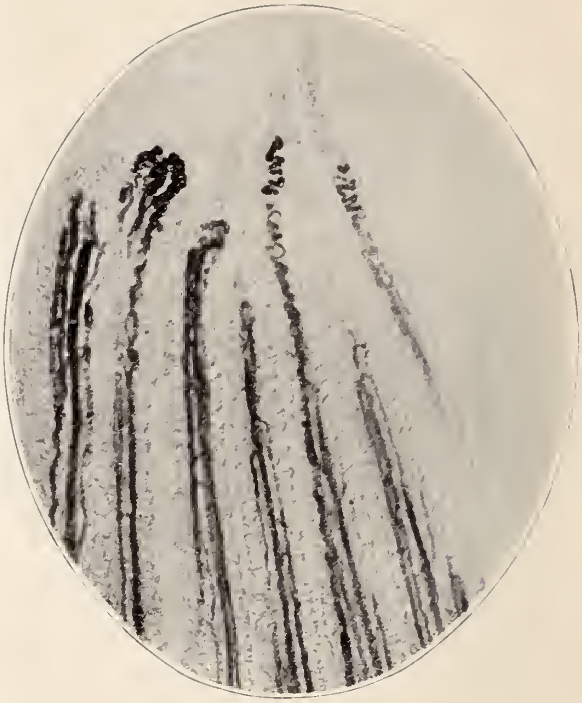

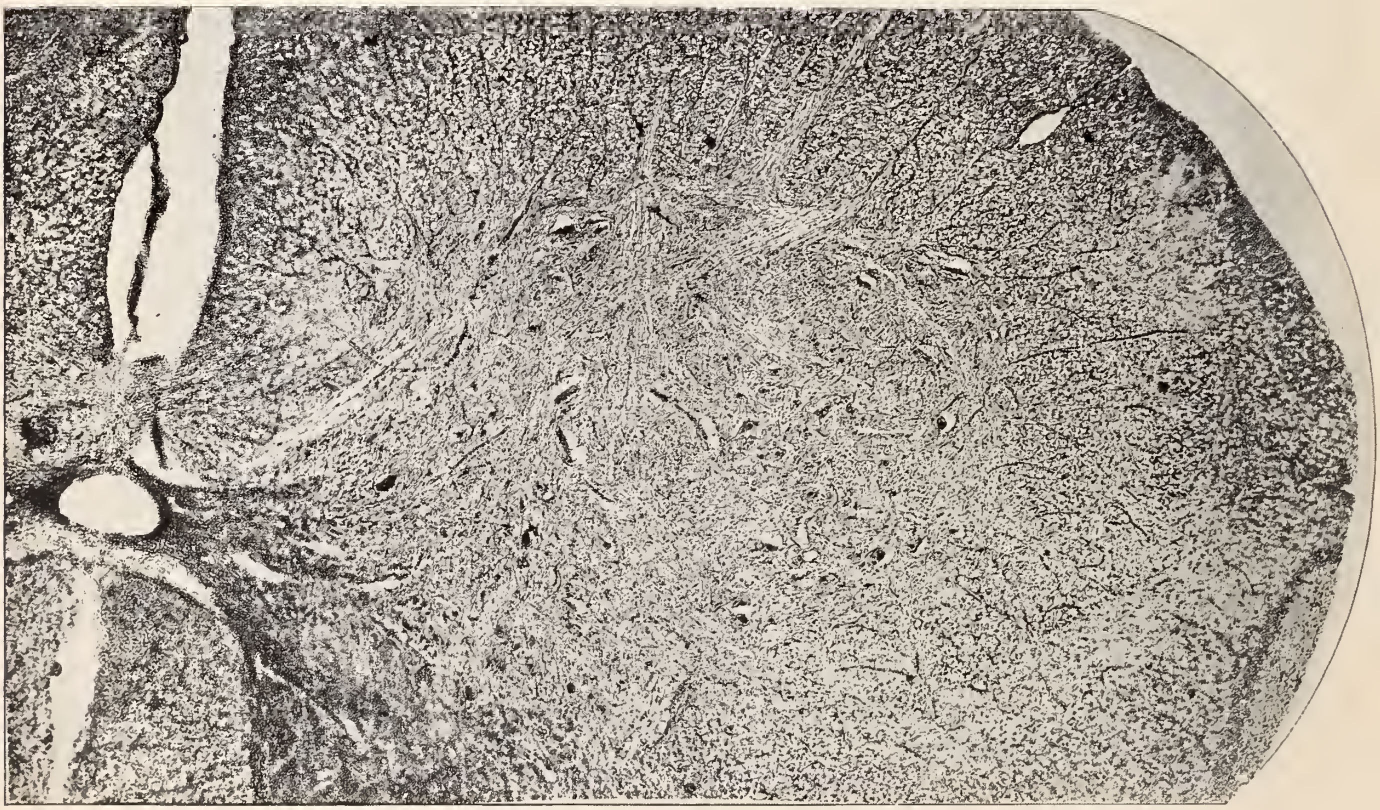

DR. Y. MAY KING'S ARTICLE ON PHOTOMICROGRAPHY.
NEW YORK MEDICAL JOURNAL, JULY 2, 1887.

Lectures and Addresses.

THE GERM THEORY AND ADVANCES IN ABDOMINAL SURGERY.

The Presidential Address delivered before the Birmingham and Midland Counties Branch of the British Medical Association, June 16, 1887.

By LAWSON TAIT, F. R. C. S.,
BIRMINGHAM, ENGLAND.

Gentlemen: Your kindness in placing me in this position of distinction brings with it for all of us the burden of an address. I tried hard to find some new line for this, but I have failed, and I have to fall back on the retrospect inevitable in all such efforts, and, more serious still, the retrospect must be personal.

I am reminded that it is twenty-seven years since I entered the University of Edinburgh as a medical student, and I have been trying to recall to mind as accurately as I can my impressions of what I then saw to contrast them with what I see now; to recall the teaching and practice of 1860 and compare them with those of 1887, and to see wherein and how far we have improved.

In such a retrospect there will be this advantage, that I shall speak of events and contrasts which most of you have witnessed, and which can be, therefore, in no way regarded as ancient history.

My earliest surgical recollection is still very vivid. The operating theatre of the old infirmary was crowded; every seat, even of the top gallery, was occupied. There were probably seven or eight hundred spectators, for Syme was to operate on a gluteal aneurysm. He was then in the zenith of his fame and in the very best of his powers, his hand as steady and his eye as true as it had ever been—incomparably the greatest surgeon I have ever seen. He entered the theatre with the recognized procession of assistants, house surgeon, and dressers, and was greeted with a subdued murmur of applause. The spectators included men of all ages and ranks in the profession, very many who had come from great distances to see the great feat—like Bickersteth, of Liverpool, who came specially to assist, if I remember rightly, and of course there were many boys like myself from fifteen upward. The patient was put to sleep, Syme buttoned up his dress-coat, turned up his sleeve, I saw a rush of blood, and in a few minutes the placing of the patient in the carrying-basket, and a round of applause, announced the conclusion of the operation.

I have often wondered since, and now I wonder still more deeply, why we gathered in such numbers to see that operation. The boys did so from curiosity and in ignorance—I am sure I did, and my ignorance was in no way lessened, for I saw little of the operation and I understood less. The older and more experienced spectators went mostly from curiosity, and perhaps to be able to say that they had seen the great surgeon do this great deed. Some six or eight men were there, like Bickersteth, who might some day be called upon to operate for a gluteal aneurysm, and they were the only legitimate spectators. All the others had far better have been away.

In those days the first-year students were turned into the operating-room, and I believe this practice is still continued, to learn how operations are done before they know the names, far less the relations, of the structures concerned. In the dissecting-rooms our greatest feats were to display skillfully the fancifully numerous layers of fascia, which, if we had been really operating for hernia, we certainly should never have troubled about; or to remember the varieties of troublesome perineal arteries with which not one per cent. of us would ever have any practical anxiety.

The strange thing was that this nonsense was encouraged by our teachers, nay, it was carried into the examination hall. At that time, as now, the College of Surgeons was the great manufacturing agency for those practitioners in England and Wales who had the care of all the ordinary ailments of British humanity, as well as the smaller number who operated on gluteal aneurysms. In order to receive a certificate which enabled the candidate to deal with scarlet fever and pneumonia, he had to answer questions about the internal iliac artery and how it might be tied. Such a trifling accident as that upon which many of you depend for your night work, the process of parturition, had not been regarded as of nearly as much importance as the relations of the pelvic fascia.

Now all this is greatly changed, but it is not changed enough, and there is still room for improvement. It is perfectly true that a great bulk of surgical work, with which for precision and brilliancy of result, as well as for difficulty of detail, even Syme's gluteal aneurysm can not for a moment compare, is now done in small rooms before audiences restricted to a few post-graduate pupils. All this, a quarter of a century ago, even if it had been possible, would have been the object of spectacle. Now two facts are recognized that were apparently hidden from our fathers—that the great bulk of human ailments are such as do not require operative interference, and that the acquisition of a surgical diploma is no guarantee of the possession of the manipulative skill necessary to be an operating surgeon. In my youth, the great object of the schools seemed to be to turn out men able to cut for stone and tie arteries, and the more solid and more frequently exercised qualities of the general practitioner were neglected. To some extent the reason of this was that the great bulk of the students went to the university with so large an amount of experience gained by the old-fashioned apprenticeship system, that many of them could really profess to be already accomplished practitioners. But the changes of the last quarter of a century have almost ended that most excellent method of training, and I find now that our young men leave the schools in large numbers in just such a state that they are ready to begin to learn the profession they have to follow. My business at present is not so much with the process of medical education as with some of its results, but I can not help joining my voice in the wail which is getting pretty general concerning the destruction of the old method of education by apprenticeship, and I most emphatically condemn the attitude taken by the two Royal Colleges in relation to the Apothecaries' Company, to which, whatever may be said to its detriment, we owe most assuredly the more solid and useful elements of medical education for very many past generations. During the time occupied by my retrospect, some of the changes effected have resulted undoubtedly in making our students more learned, but I sometimes wish that the coming generation had less about them of the savant and more of the doctor.

In 1860 the battle of anæsthetics was nearly ended, and no one ever thought of performing a surgical operation without chloroform, though its application to midwifery practice was still stubbornly resisted by some of the old folk. But the traditions of the old surgeons of the days before chloroform still survived, centering chiefly round the memory of Liston, who must have been a man fulfilling the requirements of the operative surgery of his day more fully than any other of modern times. In those terrible days, when the operation had to be done in spite of the shrieks and struggles of the poor sufferer, rapidity was everything and accuracy had sometimes to be sacrificed to speed. But Liston seemed to excel every one in his lightning-like movements with all the accuracy of Syme. Thus he made a reputation and leaves a memory more like those of an actor than a man of science, as he really was. Nowadays, when accuracy is everything and speed a matter of little moment, advantaged as we are by our slumbering patient, we can form no notion of the work of such a man as Liston. As boys we always spoke of him as of a hero. All the stories of him were treasured and handed down, and he formed the standard of comparison to the detriment of all his successors. We then spoke of a lithotomy, not in relation to its results, but by the number of seconds it took to finish. Nowadays the man who hurries an operation for the show is no credit to his art. By this, however, I do not mean that men with slow minds and shaky hands are to be encouraged to engage in operative work.

In a retrospect such as this it is an easy matter to speak of the wonderful advances made by the discovery of the anæsthetic properties of certain volatile drugs, as contrasted with the horrors of the days before this greatest blessing to mankind. But we do not as yet fully recognize the indirect advantages it has conferred upon ourselves. It is like mercy, twice blessed; it blesses the surgeon as well as the sufferer, and it has made possible operations which no surgeon could have faced without it. The whole realm of abdominal surgery gives an illustration of what I say. It is true that a few abdominal operations were done before the days of chloroform, but in this country, at least, they were nearly all removals of simple parovarian cysts; the first ovariotomy, by Charles Clay, did not occur till September 27, 1842. Baker Brown had slumbering patients, and without the unconsciousness to which we now so safely reduce them, not one of those many advances with which the name of Birmingham will ever be closely associated could have been possible. It is true that the deep sleep was first cast upon man in the Massachusetts General Hospital, but the battle was fought in this island, and the victories which have followed it are due to the pluck and pugnacity of James Young Simpson. "It is not," says Sydney Smith, "the man who first says a thing who deserves the credit, but he who says it so loud and so long that at last he persuades the world it is true."

Having thus been able to do something more than snatch an occasional victory by sleight of hand, like Liston's, the art of the surgeon made rapid progress, and about 1862 Simpson began to insist that we should know something about surgical results, that we should know indeed not only whether we were doing as much as we could do for the welfare of patients upon whom we had to operate, but whether the results obtained were at all in proportion to the labor, expense, and suffering involved. Curiously enough, the research was at first not made on the main line, but on a side issue—that of inquiry as to the best method of closing bleeding points. Simpson collected a mass of statistics which excited amazement at the terrible mortality of such simple operations as amputation of the leg and forearm. He blamed the old method of ligature, and he led us astray about acupressure. But even that mistaken divergence was of infinite use, for it led us to discontinue the long ligature—an advance which has never been acknowledged and never accredited to Simpson's work, as it ought to have been long ago. It was an advance as great as Ambroise Paré's introduction of the thread itself.

In my youth every stump was left with a number of threads hanging out of it, and after a week they were pulled by the house surgeon or dresser day by day till they came away; sometimes they never came. Simpson's attack led to a reconsideration of the whole question; in fact, we owe to him an enormous debt for the whole advance of modern surgery in the three directions which I have indicated—anæsthetics, statistical research, and the arrest of bleeding. For all of these rich fields were lying ready. Baker Brown showed that we had no need to fear that for which we had all such a mortal dread—a little piece of dead stump inside the abdomen. The rivalry between Baker Brown and Spencer Wells induced the latter to adopt a method of recording his cases which has been followed ever since, and the method of proper statistical research was begun. Finally the battle of torsion and ligature was decided in favor of short ligatures of animal tissue, and our present perfect methods were established.

But this was not all. Simpson's research on the mortality of amputations and hospitalism showed that enormous advances might be made in our hospitals, and the conclusion was established that, just as in a town, the larger and more crowded the population, the greater the factors of danger, the greater need for precautions of many kinds. Vast improvements in our hospital systems have followed, the old careless nursing has been banished, and where dirt and untidiness reigned supreme all is now care and cleanliness.

Here, again, I am carried back to the memorable day when I saw Syme operate on the gluteal aneurysm. One of his assistants was his son-in-law, the recently appointed professor of surgery in the University of Glasgow, Joseph Lister, a man who has exercised an enormous influence for good on the progress of surgery during the last twenty years—a verdict which will be accepted the more readily from me, as one known to be hostile alike to his doctrines and his practice.

Let me remind you again that just then the great battle of biogenesis was being fought, the leaders of the two sides being Pouchet and Pasteur. The former died early, and his work—almost his name—is forgotten. But on my own mind an indelible impression was made by his wonderful little book "L'origine de la vie," which fell into my hands in 1868, and which has remained a landmark in my life ever since. I now know that many of his conclusions were incomplete and many of his observations inaccurate by reason of his faulty apparatus, but his book kept me out of the errors of the school of Pasteur, and freed me from the dreams of Lister, into which so many have fallen.

Shortly after I had finished my curriculum I was fortunate enough to be appointed house surgeon to a small hospital in Yorkshire, little known outside its own district, but ever likely to keep a strong hold on my affections, founded by John Clayton, in the city of Wakefield. There I had an enormous mass of surgical material at my disposal, and a kindly and indulgent staff, under whose direction I was permitted to make full use of it. Lister had just published his first papers, and had hardly grasped, certainly had not fully formulated, his splendid idea of antiseptic surgery. From 1867 till 1870 Lister had no more faithful disciple, no more devoted follower, than the unknown house surgeon of the Clayton Hospital. I spent my days with my hands soaked in carbolic oil, making carbolic putty, and securing carbolic lac-plaster. Compound fractures were saved which in Edinburgh would have been condemned to amputation, and I did operations successfully which astonished others as much as they gratified me. Years after, when I had fallen away from the faith, the argument against me which alone caused me grief was the assertion that I had never seen and did not understand Listerism. I had been to Glasgow to see it, I had carried it out more scrupulously than the master himself, I had suffered painful attacks of hæmaturia from my misguided enthusiasm years before my metropolitan critics had known what carbolic acid was. But with all my success there occurred the old troubles —death from pyæmia, loss of cases which I could not understand if Lister's doctrines were true. I thought a royal road to surgical success had been opened to me, yet every now and then I found myself floundering out of it, and I began to fear that it was a science falsely so called.

In 1870 I came to Birmingham in search of a wider field, and my present happy line of life was opened to me. For some years I had little to do in the way of practice, and I devoted myself to the following of the researches of Bastian, Tyndal, and Pasteur, all my work, however, being tinctured by the strongest belief in the faith of Darwin. To such a mental attitude the ultimate doctrines of Listerism are an impossibility. This has been completely established by some of our most recent and best English workers, and the wildly extravagant speculations of German observers, whose powers are far more in the direction of metaphysical invention than of actual biological record, are blown to the winds by such a man as Dallinger. Büchner, for instance, carries his cultivating experiments of the *Bacillus anthracis* to an absolute *reductio ad absurdum* when he tells us that he can by successive cultivations change it into the *Bacillus subtilis;* and, again, that he can change the harmless *Bacillus subtilis* into the deadly *Bacillus anthracis* by a similar process. Dallinger disposes of this briefly in two sentences: "To one who has fully comprehended the meaning and operation of the Darwinian law it will be at once apparent that there must be error somewhere in this matter." "If the law of actual variation, with all that is involved in survival of the fittest, could be so readily brought into complete operation and yield so pronounced a result, where would be the stability of the organic world? Nothing would be at one stay. There could be no permanence in anything living."

I could grant, at their first appearance, the conclusions of Tyndal, that the lowly organisms which are associated with, and which doubtless cause, decomposition, do not, and can not, arise save from pre-existing germs. Dallinger's observations completely establish this, even if it wanted anything more than an *a priori* proof. I followed Bastian's work, and soon found enough to persuade myself that his conclusions were based on incomplete experiments. Abiogenesis, as Bastian and Pouchet before him had proclaimed it, was to me as an evolutionist a doctrine which could not be adopted. I read with delight Mantagazza's dramatic description when he said: "Je dus me lever, brisé de fatigue, mais enchanté d'avoir surpris la vie à son berceau." But I could not bring myself to believe it. To me that was incredible, for the theory of Darwin—amply verified by every fact in nature—has, as a corollary, the conclusion that changes are slow in a geometrical proportion to their primitive character. The curve of progress in civilized life is rapid. In the primitive forms of life the biological record clearly shows that, during that epoch, the curve of progress is so slow that the human mind can devise no scheme for appreciating its direction at all—no conceivable measure of time can be stated for the period which must have passed during which the simplest chemical combinations existed without form of life, and that in which the simplest forms of life were changed into more complex. To assert, therefore, that out of a mere chemical combination life would be developed in a laboratory experiment, was to try to get us to believe in the reality of the juggler's deception.

And yet the followers of the opposite school, with absolutely ascertained facts to guide them, went as far astray on the other side, and absolutely misinterpreted the truths before them. The fact that sterilized beef-tea can be kept indefinitely in an hermetically closed vessel has been known to the housekeeper for generations. Tyndal showed that cotton wool could so filter air, and so completely sterilize it, that it might be freely and harmlessly admitted to the said beef-tea. That also can not be doubted, and the conclusion is inevitable that, if you keep away the germs of the minute organisms, the growth and life of which alone determine decomposition, you keep your beef-tea sweet. But they did not give sufficient prominence to certain other facts. I don't say they did not know them, or that they forgot them, but the overwhelming importance of these increasing discoveries dwarfed to the biologists the importance of those old-fashioned facts. Thus, the housekeeper also knows that the chemical constitution of the beef-tea has a great deal to do with its keeping sweet—that, in fact, the beef-tea may be put in such a condition as to defy the germs. Such a simple chemical process as putting a great deal of salt in it, or depriving it of its water, will effect this. Similarly, the presence of life in tissue will prevent decomposition, and not only in tissue, but in non-organized material which is in association with tissue. Thus, in an egg there is a very minute, a microscopical mass of tissue, the germinal vesicle, which, when living, seems to possess the most extraordinary powers, not only of resisting decomposition itself, but of preserving from decomposition the non-organized mass of albumin with which it is associated. Try a very simple experiment with four eggs, and you will see the force of what I mean.

The first egg shall be one laid by a hen to which the male bird has never had access, so that the egg is absolutely sterile. The second egg shall be one completely fertilized. If you put both of these eggs into an incubator, and keep them under precisely the same circumstances, in a week the non-fertilized or dead egg will be putrid, and will swarm with all sorts of bacteria and spores, while the fertilized egg contents will be quite sweet and the chick well formed.

The second part of the experiment is as follows: Another and precisely similar pair of eggs are to be dipped together for about twenty seconds in boiling water so as to form a thin film of coagulated albumin immediately within the shell. They may then be put on the shelf of the storeroom for six months, and opened at the same time. They will then be found both quite sweet and fit to eat. This is the rough-and-ready method of the housekeeper to preserve eggs from the attacks of germs. Of this second pair of eggs, one had life in it and the other had not. The life in the former is destroyed by exactly the same process as that which prevents the access of germs to it and to the egg which never had life.

Of the first pair of eggs not protected in this way, the presence of life protected the egg from decomposition, the absence of it allowed rapid and complete decomposition to be effected. There is not a henwife in the kingdom that does not know that, unless the access of the male bird is permitted in proper ratio, not only will the eggs not set, but they will not keep, and that such proper access will enable eggs to be kept for nearly three weeks. After that the embryo loses its life, there is no further protection, and decomposition at once sets in.

If these scientific workers had known as much as the henwife they would have known that to apply the conclusions derived from beef-tea in the flasks of the chemist's laboratory to the phenomena of living tissue is nonsense. The phenomena of decomposition must therefore not be taken for those of disease.

We do not in the least know what life is. We call it vital power, and talk glibly about it, though of late our men of science seem to have neglected it. But let us suppose for a moment that when life ceases some chemical change takes place—until that change does take place the phenomenon of putrefaction is an impossibility. Take a drop of fluid in which amœbæ exist, put it on a warm slide, and watch the marvelous phenomena, as I have often done, for two or three hours at a stretch. The field swarms with bacteria and micrococci and bacilli of numerous breeds, as well as amœbæ. Pick out an amœba and watch him. Allman used to call him the "all-devouring," and he well deserves the title. So long as his sloth-like movements go on he is avoided by his neighbors. But his movements get feeble and very slow, and you will see a paramecium go at him. The movements cease altogether, and soon you will find him riddled with bacteria and bacilli, and soon all trace of him will be lost. Why did his enemies avoid him while he was alive? Why could they so easily attack him when dead? I can not tell, but it shows that there is an enormous difference between tissue living and tissue dead.

The reasons which may be urged to show the futility of the arguments of the German school of bacteriologists are endless, but I must not be tempted into a discussion of any of them, for I have to deal with a much wider question. Let me only say that the best of all proofs of the fallacy of their assertions is the fact that every attempt to elevate the germ-facts of putrefaction into a germ theory of disease has miserably failed, and has failed nowhere so conspicuously as when obtruded into the realms of the treatment of diseases.

Let me continue my retrospect on this subject. Increasing engagements gradually withdrew me from the practical study of these interesting questions, and I have not, therefore, closely followed the researches into the new field of work—the cultivation of germs and cognate lines of research—chiefly because they have trenched very little on surgical work. They have been practically confined to the class of diseases dealt with by the physician. They have unearthed many strange and striking facts, and have explained many occurrences of the utmost importance. I do not, therefore, either despise or deride them. I believe I estimate them at their proper value, and all I wish is that they should be kept in their proper places. I believe that John Law was really a philanthropist, and that his Darien project was a very good thing in its way, yet the South Sea scheme did not make everybody's fortune. Neither will the germ theory of disease explain all the facts of pathology, nor will it enable us to deal effectually with every disease, as its disciples want us to believe.

Yet it has had some splendid successes; no one can dispute that who knows the story of the mortality of women in child-bed. Many horrible tales have been told illustrative of this. Let me add another. A few weeks ago I made some visits to La Maternité with my friend, Professor Tarnier. He directed my attention to a linear chart on the wall of his room, showing the total death-rate of the women confined in the hospital from 1792 till 1886.

He divides this marvelous record into three periods, the first of which he calls the period of inaction, during which the mortality was 9·3 per cent.; in some years it was as high as 20 per cent., a perfectly murderous mortality. The second period he calls that of the battle against the causes of infection and contagion without antisepsis—that is, by mere general hygiene—and he shows that by this an abrupt descent to a mortality of 2·3 per cent. was secured. In his third period, by the employment of antisepsis, chiefly and now entirely by solutions of corrosive sublimate of about 1 in 3,000, the mortality was reduced to 1·1 per cent., and in 1885 and 1886 it was under 1 per cent.

Finally, the conclusion is this: When antiseptic precautions were used, the mortality almost disappeared, so that we now know that the raid against lying-in hospitals was a mistake; I have taken an active share in it myself, and therefore am bound to make this recantation. Destroy the germs on the hands of those who attend parturient women, and the women are safe. Women attended in their confinements by midwives have a greater chance of escape, because those midwives are but little likely to come across the deadly germs which excite the fatal diseases. But let the physicians and students of tumble-down and not over-clean buildings like La Maternité (a convent but little altered from the sixteenth century) wash their hands and instruments in a solution of corrosive sublimate each time before touching the patients, and these women seem to be absolutely free from danger. I need not say that after this true infective puerperal fever ought to be banished from practice. It ought to be heard of no more.

Well, you say, this proves the germ theory of disease. Certainly, for this one instance; but the case is only the exception which indicates the real road for inquiry. The puerperal woman is in a condition wholly different from that of any other patient; her very blood is wholly different in chemical constitution from the blood of any other human being. I believe that the very germs which are so disastrous to her might be, and often are, smeared over wounds in men and non-puerperal women without any harm. That there is a difference of this kind is proved by many illustrations, such as scarlet fever. No one can doubt that this disease is due to a specific germ, which generally breeds true. I do not know what has been done in the way of cultivating it, but we know that it does sport when grown in abundance, for in epidemics the poison-results vary from slight sore throats to malignant non-eruptive attacks fatal in twenty-four hours. But look at the natural history of the disease. Each child goes through a period of danger, having its maximum period between five and seven years ot age, and just in proportion as the individual approaches a period of life more and more remote from that age, so does the likelihood of becoming affected by the disease diminish, as well as does diminish the severity and fatality of the attack, if it occurs. Yet the germs are the same; it is the vital condition of the *nidus* which changes. So the curious fact of the immunity generally conferred by one attack against a second proves that we are expecting too much from our knowledge of germs, and that we are neglecting too much researches into the condition of the nest in which they breed. What is the chemical or physical change effected in the individual constitution which enables it for an indefinite time to resist the attacks of the germs which at one time it was so ripe for, and which it cultivated so freely? Not any known method of research can show us the difference in the soil; but there is a difference, whilst the germs float about exactly the same.

You will see, therefore, that I accept the germ theory of decomposition—its facts are indisputable—and the germ theory of disease concerning certain diseases. The facts there are equally beyond cavil. But it is when Lister comes in with his royal road to surgical success, still more when his German disciples, full of enthusiasm and quite empty of discrimination, appear on the scene, that I am in doubt, and equally in fear. What I predicted in a paper read before the Royal Medical and Chirurgical Society in 1880 has come to be only too well fulfilled. This failure in logic, this rushing to extremes, this undue haste to unravel all the mysteries of nature, and that greatest mystery of all, human disease, by every new little fact discovered by us, is no new thing.

No sooner had Schleiden and Schwann made out the rough outlines of cell-growth than we got a full-blown system of cellular pathology about which the fights were bitter, just at the time when my retrospect begins. Then bigger and better microscopes enabled Bennett to see molecules, and a molecular pathology swept the cellular out of the field. Now our lenses enable us to study bacilli and their spores, and the bacillary pathology takes the cake.

But Dallinger has beaten the bacillus, and now our savants will have to give up their jellies and their soups on which they feed their nasty beasts, for Dallinger has found a lesser flea.

> "So naturalists observe a flea
> Has smaller fleas that on him prey;
> And these have smaller still to bite 'em,
> And so proceed *ad infinitum.*"

Let me go back again to my retrospect to show what I mean by two illustrations taken from my own surgical work, in which I can speak strongly from a very abundant experience. I have argued this question very fully elsewhere from the view of abdominal surgery, and I shall speak in a few moments of that subject again. But we are told now that abdominal surgery is a thing by itself, apart altogether from the surgery of the rest of the body, and not governed by the same laws. That, of course, is nonsense—simply a repetition of the school-boy proposal, "Heads I win, tails you lose."

Let me speak of the only bit of general surgery which comes my way, the removal of tumors of the breast—operations of which I perform some scores every year. When I was a follower of Lister I used his every method, every detail recommended by him in turn, and they were endless in variety, and I rarely got anything like such satisfactory results as I get now without them. I used the carbolic oil and the putty, and the lac-plaster and the carbolic spray, thymol, absolute phenol, corrosive sublimate, boro-glyceride, etc., etc., *usque ad nauseam.* But the moment I gave all that up, and used a little piece of Chassaignac's drainage-tube and plenty of Gamgee's absorbent wool, my results became uniformly satisfactory, and they remain so. Union by first intention is the rule, suppuration is the exception. The reason is simple. The drainage-tube removes the likelihood of any nest for the germs to breed in, and the absorbent cotton-wool makes their existence impossible. It removes the dead fluids. Therefore I care not a fig for the germs, and the advance in surgery in the direction of this success is due not to Lister but to Chassaignac and Gamgee. It was my custom long before his death to ascribe on all fit occasions this merit to the labors of our late townsman, and, now that he has gone from amongst us, it is my duty to claim for him a full recognition of his great discovery. Titular honors and weighty pensions have often been bestowed for far less important services to humanity, and I am strongly of opinion that the state should be moved to recognize to his widow in some substantial form the merit of his invention.

Let me now speak briefly of the arguments derived from the recent advancements of abdominal surgery, and, as that is a field on which I must inevitably become wearisomely discursive, unless I exercise great care, let me confine myself rigidly to one case, that of inflammatory disease of the Fallopian tubes. I am induced to select this because I have been savagely attacked recently by several German authorities, notably by Dr. Sänger, of Leipsic, and by others, at the recent Surgical Congress. Dr. Sänger's style of language is such that I could not emulate it, and should be sorry to attempt an imitation of it. Dr. Sänger has such a low opinion of my abilities and my work that he goes so far as to recommend me to learn to read German, and to read the works of German gynæcologists. Unfortunately for me, that is just what I did some twenty years ago, with infinite labor, for the language is neither simple nor easy. I have long since been convinced that my time in this respect was thrown away. The German mind, at least the German medical mind, is essentially different from the mind of the Briton. It not only evolves from its own consciousness descriptions of things other than the proverbial camel, but it so wraps up its grain of wheat in such a bushel of chaff that the labor of getting a meal is intolerable. Nothing pleases it so much as metaphysical speculation, while we, on the contrary, are eminently pragmatic. From my early experience of German hospitals, and the methods of work therein, I never wondered at the necessity for some such reform among them as was offered by Listerism. But I thought and even said more than that. A very eminent German surgeon once cross-examined me as to my own notions concerning my exceptional success in abdominal operations. I evaded the real answer as long as I could, but at last, driven into a corner, I replied that I paid a great deal of attention to the cleansing of my finger-nails. He looked at his own and turned away. I do not know if he was a wiser, he certainly was an angrier man. I have had no more German visitors, and I am being continually attacked in German medical papers.

To return to the Fallopian tube and Dr. Sänger. His chief trouble about me is that I will not recognize his subdivision of pyosalpinx into varieties based on the peculiar kind of low organizations to be found in the contents of the tubes. He desires to establish three such varieties—the salpingitis gonorrhoica, due to the gonococcus of Neisser; the salpingitis tuberculosa, produced by the *Bacillus tuberculosis* of Koch; and the salpingitis actinomycotica, produced by the *Actinomyces bovis* of Bollinger.

My reason for refusing to follow Dr. Sänger is simple, and my argument easy. Dr. Sänger is putting the cart before the horse. These organisms are the result of the inflammatory exudation, not its cause. When Dr. Sänger is as accomplished in the use of the microscope as Dallinger is, he will probably find in the contents of these tubes the still smaller beast which, by repeated buttings against the fragments of dead tissue, prepares the food on which the bacteria live. The bacteria are the phenomena of decomposition and not the cause of the disease. If it were not so, how could we explain the familiar fact of rapid recovery after the opening of a superficial abscess in a person otherwise healthy? The evacuated pus swarms with bacteria. The pus is dead tissue. The bacteria do not attack the living tissue. The moment their food is removed they are starved into subjection, the abscess cavity heals, and the patient recovers. But put this germ theory of disease into the position of power, which its German advocates claim for it, and recovery is theoretically impossible. The whole economy must become an addled egg. Given the access of the *Bacillus tuberculosis* to the Fallopian tubes, the infection of the peritonæum is a logical sequence. But I have opened the abdomen and removed chronically inflamed Fallopian tubes distended with dead matter infected by this bacillus, and with the infundibula not occluded, and the patient is now well and healthy, nearly three years after the operation. I have opened the abdomen, in many cases packed full of tubercular matter, and drained it like a common abscess, and have cured the patients. The same thing has been done by Esmarch, who has identified the bacillus in the orthodox German fashion. Does any one believe that either of us removed every bacillus and every spore? I know I did not, for the tubercular masses in several of my cases kept coming out for weeks afterward, yet the patients recovered. What I really did was to enable my patients to get rid of the dead or dying exudation on which the bacilli live, of the decomposition of which they are probably the means and wholly the result.

Apply this German notion of the germ theory of disease to the facts of clinical medicine and surgery and see how irreconcilable with the facts it is. If true, the amputation of a finger ought to be as fatal as the loss of the thigh at the hip joint. But it is not so in the same hospital and under precisely similar circumstances. Amputations have an increasing mortality everywhere just as the point of severance approaches the trunk. Why? Clearly on account of the "diminished vitality" of the general tissues due to the "shock." These two good old-fashioned terms are sneered at by our modern savants because they serve only to express our ignorance. The reproach is true—we are ignorant. But it is better to be ignorant and to confess it than to parade a lot of inaccurate conclusions in the name of science.

If the germ theory of tubercle that it is the result of the existence of the bacillus tuberculosis were correct, none of us were safe from consumption, for we must meet these deadly brutes at every cab-stand and at every gathering in the town hall. If it were true, Bennett's fact that multitudes of people recover from consumption could not be sustained, yet every physician knows it is true.

We do not know exactly what we mean when we speak of diminished vitality any more than we know exactly what we mean when we speak of an earthquake. But there is such a thing. A man's toes remain healthy until the deposit of lime-salts in the walls of his arteries deprive them of nutrition and diminish their vitality till they can no longer resist the attacks of the ever-present germ. The germ attacks the dead and nearly dead tissue. Drysdale's flagellating monad probably begins the deadly work of senile gangrene, and the bacteria finish it. But there is a line of demarkation beyond which the little beasts are powerless by reason of the resisting vitality. Some indiscreet surgeon interferes, makes a clot in the artery, the clot runs up, nutrition stops, vitality is destroyed, and the germs wreak their evil wills.

In conclusion, let me again say that, as the wrecks of the cellular pathology remain to us most valuable contributions toward the solution of the mysteries of disease, as the construction by Bennett of a scheme of molecular pathology did much to help us, so has the germ theory rendered us great service. But, as a final answer, it is insufficient, and its wholesale and reckless application is alike mischievous and misleading.

Original Communications.

THE
PHOTO-MICROGRAPHY OF HISTOLOGICAL SUBJECTS.*

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The idea of utilizing photography as a means of recording scientific investigations with the microscope presents so many attractions that it undoubtedly has occurred to many microscopists. But as yet comparatively few appear to have availed themselves of this method of obtaining an indisputably exact reproduction of what is shown by the microscope. And even these few have given their chief attention to diatoms, of which they have made very beautiful photo-micrographs. Practical pathologists, as a rule, I think, have been deterred from attempting to use photography by the mistaken apprehension that the process was too long and wearisome for one with but little spare time, and also that the results to be obtained in the case of histological subjects would not sufficiently recompense for the labor bestowed. But in reality it is not any more tedious, nor does it require any more time, to make a photo-micrograph than it does to make a photograph of any other kind. There is no reason why an objective which will project a clear image upon the eye will not do the same upon a sensitive plate, nor why such impressions should not be treated like the impressions from other kinds of lines. The measure of success I have met with in the photo-micrography of histological subjects, while pursuing it for my own benefit as a welcome alternative to camera-lucida drawing, has induced some of my friends to suggest that I might perhaps be able to give some practical hints which would be useful to others, toiling over camera-lucida reflections, who would like to experiment in this interesting branch of photography.

It does not require a great amount of skill, nor is it nearly as laborious as drawing, and, I think, will be found far more satisfactory in the end.

I would here acknowledge my great indebtedness to Professor T. W. Smillie, chief of the photographic department of the National Museum in Washington, D. C., for valuable advice and instruction, which his rare comprehension of the difficulties to be overcome enabled him to give me, and for the facilities afforded me in the laboratory under his charge. I am also indebted to Dr. I. Berman for some fine slides, from which the negatives were taken of the accompanying prints of the spinal cord and the tooth of a kitten.

The limits of this paper will not permit of my describing minutely the details which belong to ordinary photography, and so many are already accustomed to the treatment of usual subjects that it would be needless to do so. I shall therefore only endeavor to indicate the points of special interest and the necessary apparatus.

For those practically unacquainted with photography I would suggest that a few lessons from a professional photographer will be of immense value, saving much time and mental perturbation in ascertaining the best manner of working.

The necessary parts of the apparatus are not numerous, and need be but very simple. They consist of a microscope, a light, a condensing lens, a photographic camera with a plate-holder, plates and a few chemicals, and a room to work in. The microscope should have good objectives, for they will be subjected to a very severe trial, and the most judicious treatment fails to get good results with poor objectives. The qualities specially desirable are achromatism, good definition, penetration, and a flat field. The two latter have been the most difficult to obtain, in my experience. The penetration may be improved by inserting a diaphragm behind the posterior combination of the objective at the point of the greatest convergence of the rays. This point is most easily ascertained by sliding the diaphragm up and down until the proper spot is reached. The use of a diaphragm diminishes the amount of light; but, with low powers where the greatest penetration is necessary, the amount of light admitted into the objective is so large that this loss is of no consequence. It would, doubtless, be convenient to have apochromatic glass; but the difference between the chemical and visual foci may be remedied by the use of a blue cell. In working without an eye-piece, the objective should be screwed to the end of a short, wide tube—say, about six inches long and two inches wide, well blackened in its interior.

As to the relative merits of working with or without an eye-piece I am not now prepared to speak; most of my work has been done without one. The eye-piece has, or should have, the merit of rendering the field aplanatic.

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For light, kerosene lamps, such as are used with magic lanterns, etc., furnish sufficient for low powers, if the object presents strong contrasts and sharp outlines, so that the definition is not taxed too much. The flat wicks are preferable, although a round one answers pretty well. With high powers, or where fine definition of delicate details is needed, the oil-lamp is not sufficient, and a stronger light must be used—such as an arc electric light, or sunlight. The strong, clear, white light of these two gives the best definition, and also enables one to focus much more accurately. Sunlight I have found all that could be desired. It is the most available for general use, and in the United States National Museum, after many trials of various other kinds of light, it is considered the best for photo-micrographic purposes. The only apparatus necessary in using it is a heliostat to reflect the rays upon a condenser. The condensing lens should be about three inches in diameter, and should have a focal length of from six to eight inches. A slight variation in the size of the condenser makes no material difference, provided it is not too convex, as the rays entering the objective should be as nearly parallel as possible in order to secure more accurate definition.

A substage condenser is not necessary for tissue photography, except with very high powers. The size of the camera may be left to individual choice. In the National Museum the one which I used was suited for an eight-by-ten plate, and had a bellows arrangement five feet long. If the eye-piece is used, two feet of bellows will be sufficient. The plate-holder should be capable of carrying a collodion plate, and also be provided with mats for holding smaller sizes, if an eight-by-ten plate is generally used.

If sunlight is used, the work-room should have one window facing the south, the lower sash replaced by wooden shutters and the upper one supplied with orange-colored glass, and a thick roller shade, by means of which the room may be darkened while an exposure is being made, so that no actinic light will enter the objective, except that which passes through the condenser.

The different parts of the apparatus are conveniently arranged and secured upon a stout, smooth board, resting on a firm table near the window. Fasten the camera-bed to one end of the board. In front of it place the microscope screwed upon a block of sufficient height to bring the tube opposite to the center of the camera-lens aperture, leaving a few inches of space intervening, in order to permit of focusing the objective up and down, or rather backward and forward, as the microscope tube is now horizontal. The intervening space referred to may be bridged over by a sleeve of black velvet, or anything pliable, which is at the same time opaque and has a non-reflecting surface. The wrist end of a lady's black undressed kid *mousquetaire* glove, turned wrong side out, will answer very well by tacking the larger end around the camera-lens aperture, and securing the other end around the tube by means of an elastic band.

Next comes the condenser, which must be fastened to the end of a tube which slides smoothly in a collar fitted around a hole cut in the window shutter. By this arrangement the condenser may be moved back or forth as circumstances require without throwing it out of line. The position of the hole should be carefully regulated so that the optical axis of the condenser will be in the same line with the optical axis of the objective.

The heliostat is placed outside of the window, either on a separate shelf or on the end of the same board which carries the rest of the apparatus, in which case the shutter with the condenser must be notched at the bottom to fit over the board, and lifted out while it is being pushed out of the window to a sufficient distance. When once regulated for the latitude and the time of day, the heliostat moves by clock-work and requires no further attention.

If artificial light is used, it should be inclosed in something to prevent the rays from being diffused in the room. [When using my kerosene lamp, I had a piece of stove-pipe in which a hole had been cut opposite the flame for inserting the tube of the condenser.] Having arranged all carefully in line, adjust the condenser so that its focus will pretty nearly coincide with the focus of the objective, or until the cone of light upon the object and the field of the objective are of about the same size, and test the apparatus with some slide requiring fine definition and a low power. Focus down with the coarse adjustment until the usual working distance is reached. Slide the bellows back and forth until the image is vaguely seen upon the ground glass, and then use the fine adjustment until the image is perfect. It may be necessary to throw a focusing cloth over the head and camera, in order to see the fine details clearly.

Sometimes one or more bright spots appear in the field, interfering greatly with the definition. These are due to reflections within the objective, or in some other part. By taking away the ground glass and looking in with eyes almost shut, so as not to be dazzled, one may generally detect where the reflections occur. Sometimes the sleeve is not light-proof, or has become detached and admits stray beams of light, which make confusion. When the eye-piece is used the objective may be focused as usual, and the stand bent horizontally. Then slip the sleeve over the end of the tube, being careful not to disturb the adjustment; and focus the image upon the ground glass by moving the bellows.

A more trying difficulty is curvature of the field. This increases with the higher powers, so that often, out of a field five inches in diameter upon the ground glass, not more than half an inch can be brought into focus at one time.

The best general effect is obtained by selecting some point to focus upon, midway between the center and periphery. This gives a field with moderately good definition throughout, and no great contrasts between well-defined and blurred lines.

If there is any special detail to be demonstrated, that of course must be placed in the center of the field and focused without regard to the rest. As objectives are now constructed, the only remedy that I am aware of is to make use of an eye-piece or amplifier suited to the particular objective used.

Lack of penetration may be somewhat obviated by a diaphragm, as I have said before.

The difference between the chemical and visual foci is ascertained by interposing between the stage and the condenser a deep violet-colored solution (about 8 per cent.) of pure cupric oxide in ammonia. If the cell is made of glass strips, this fluid, which is exceedingly corrosive, soon acts upon the cement and destroys it. When not in use it is advisable to pour the solution out, unless it is contained in a blown glass cell, such as is used for holding fluid in spectrum analysis.

This blue medium practically stops all except the violet rays, and leaves only the chemical focus. If now the image is as well defined as before, the two foci are coincident; if not, the distance which the objective must be moved, to restore the definition, is equal to the difference. In low powers this is apt to be marked. With good modern objectives, the higher powers do not generally present any difference.

Often a dark edge appears, or the field is lighter in one part than another. This is due to the heliostat being out of proper relation to the condenser, so that it is not uniformly illuminated. Unless this is corrected, the negative will not be of uniform density. When all is satisfactory upon the ground glass, a sensitive plate may be substituted and the exposure made by intercepting the light between the condenser and the stage with a bit of blackened card-board, while the slide is being drawn out; then lifting the card-board for the necessary time, then replacing it while the slide is being drawn back. If the exposure should occupy several minutes, the card-board will not be necessary, since the time taken up in pulling out and returning the slide is comparatively so short as to be unimportant.

The table upon which the apparatus stands should be very firm, as any disturbance during exposure shows by blurred lines.

The photographic treatment is a little different from that of usual subjects. The chief aim in photo-micrography is to get definition. The negative must be sufficiently dense to give a strong print, in which the lights are high, and the shadows deep, clear, and sharply outlined. To this end the exposure must be short—barely long enough to get the details and yet to keep the shadows clear—and the development excessive. This does away with the soft middle tones and gradations between the lights and shadows so essential to the beauty of landscape or portrait photography, but so disastrous to photo-micrographs.

Dry plates are useful with kerosene light; the length of exposure varies greatly, and must be ascertained for each particular case.

With sunlight, low powers generally require two blue cells a quarter of an inch thick, and an exposure as short as it can be made by hand. If the specimen is of rather a deep-red color, and covers the field pretty thoroughly, one cell may be sufficient, or none at all may be necessary for tempering the light.

Collodion plates with the same objectives require but one cell if the specimen is very thin and delicately colored, and the same exposure—about one third to three quarters of a second. Powers from one fifth of an inch and upward do not require any blue cell, unless there is a difference between the chemical and visual foci. For collodion plates one and a half seconds are sufficient for the exposure with ordinary carmine-stained sections; then the time lengthens rapidly as the powers increase.

The advantages of the short exposure are, that the middle tones do not have time to be reproduced, only the marked lights and shadows are impressed, and there is much less danger of jarring the apparatus than when the exposure occupies several minutes. In a city, where vehicles are constantly passing, it is impossible to get a perfectly quiet five minutes as even what is not a very perceptible jar will mar the clearness of the outlines. Moreover, in the case of the short exposure, less time is allowed for the occurrence of unforeseen accidents.

Dry plates must be handled, as usual, under ruby light alone. Ferrous oxalate is the best developer, giving perfectly clear, white shadows; eight parts of a saturated solution of potassic oxalate, acidulated with oxalic acid, to one part of a saturated solution of ferrous sulphate, acidulated with sulphuric acid, is the usual formula. It is advantageous to add two or three drops of a saturated potassium-bromide solution. Or the development may be commenced in a normal developer, and then transferred to one containing bromide. Should the image begin to appear in a normal developer under fifteen seconds, the plate has been more than fully exposed, and very decidedly too much so for microscopical purposes. It might perhaps be saved by promptly adding bromide; probably another plate must be taken. Develop until the back is quite gray in the shadows. With the ferrous oxalate developer and a properly exposed plate there is scarcely any danger of over-development. If, after fixing, the negative appears a little too heavy in the fine details, returning it for an hour or more to a strong hyposulphite solution may restore it. If that does not bleach it sufficiently, wash and pour on and off the plate a very weak solution of potassium iodide, watching carefully all the while that the process of changing the reduced silver to an iodide does not go too far. Then replace for a few moments in the hyposulphite solution, to dissolve out the new iodide of silver, before giving the final washing. If under-developed, no intensifications permitted by the dry-plate film will make up for it in this class of work.

Collodion plates are to be preferred, since, in addition to the possibility of making use of under-exposure and full development, certain intensifying processes may be used which take away the soft edge of the lines (caused by a slight halo around the edge of the object), and thus sharpening the outlines greatly. The dry-plate film does not permit of these processes being used; hence in these the definition is not so good.

If the window-glass of the room in which the exposure is made is of a pretty deep orange-color, and the room long enough or so arranged that one may work where there is not too much light, the same room may be used for developing collodion plates. In the dark room an orange shade over the gas-jet gives a perfectly safe light.

Plates are prepared by thoroughly cleansing them in nitric acid, since with this former images are less likely to reappear than when caustic alkali is used for cleansing. Then flow upon the concave side the following solution of albumin:

Take the white of one egg beaten a little, and dissolve it in twenty ounces of water; add a drop of strong ammonia.

The plates are then set up in a rack to dry, care being taken to shield them from dust, after which they may be set away in the dark room on some convenient shelf to keep clean until needed. If they are put in regular order, albuminized surface to the wall, it prevents confusion if one happens to be in a hurry.

The albumin coat is too thin to be visible, yet it covers any little imperfection in the glass plate, and prevents it from appearing in the picture. It also makes the collodion flow more smoothly.

The usual medium negative collodion of the portrait photographer has given me quite satisfactory results. It should be filtered and then allowed to stand several hours, and decanted off the deposit before using it. Occasionally, collodion used for line work may be obtained. This works more slowly but gives greater contrasts. Where it is desirable to make one's own collodion, the following formula has been recommended to me:

Pure ether and strong alcohol, equal parts; for each ounce of this mixture weigh out five grains of ammonium iodide, two grains of potassium bromide, and five grains of photographic pyroxylin. Dissolve the salts in the smallest possible amount of water, and add to the alcohol. Dissolve the pyroxylin in the ether. Put the two solutions together, and filter. The collodion is now ready for immediate use. It should be made in small quantities, since it can not be relied on to keep longer than three weeks.

The sensitizing bath is, as usual, forty grains of silver nitrate to the ounce of water.

Ferrous sulphate developer works well, and is easily prepared: Saturated solution of ferrous sulphate (not acidulated with sulphuric acid), four ounces; glacial acetic acid, one ounce and a half, to sixteen ounces of water.

After fixing in potassium cyanide, the negatives may be set aside for a more convenient time, or intensified at once. The plate must be either entirely wet or perfectly dry before commencing, otherwise the action will be uneven. There are several methods of intensifying negatives which are useful for photo-micrographs.

A. Lay the negative in a tray containing a watery solution of iodine and iodide of potassium, or, what is more convenient, pour on and off a strong watery solution of a deep wine-color, until the negative assumes throughout a delicate straw-color. Then wash very thoroughly to eliminate the iodine. This process may be hastened by pouring on a very dilute solution of potassium iodide. The fixing agent (cyanide) should have been carefully washed out, otherwise as fast as the deposited silver is changed into an iodide it will be dissolved as a cyanide of silver, and the image is lost. If the iodine is not washed out, it reacts with the sulphur next used, and produces a disagreeable yellowish-green color, which interferes with the printing qualities of the negative. Finally, treat the plate with a soluble sulphide; Schlippe's salt has been used, but ammonium sulphide is the most satisfactory. Pour this on and off until the film is gray to the back; this insures that all the deposited silver is changed to a sulphide. When the negative is dried and varnished, it is ready to be printed from.

This process gives a good deal of density, and is adapted to negatives from objectives of one fifth of an inch and upward, where the exposure, being so short in order to give good definition, necessarily produces rather thin negatives.

With lower powers there is apt to be so much very fine detail, and a longer exposure in proportion to the amount of light, that the deposit of silver is greater, and this process gives too much density, effacing some of the details.

B. Pour over the plate a saturated solution of the red iodide of mercury and potassium iodide, and then treat with potassium sulphide. This process is perhaps the best for very thin negatives.

C. Where the negative does not need very much more density, treating the plate with potassium sulphide alone until the film is gray to the back will be sufficient.

The accompanying plates of the spinal cord and tooth of a kitten were intensified in this manner.

The lower-power objectives I have found more useful in histological demonstrations than the higher, on account of their possessing far more penetration and a flatter field. They also allow of a greater length of bellows, equivalent to deeper eye-piecing, which makes the details larger, and thus the field. To a certain extent the size of the field is a matter of choice. I like to have it as large as possible without straining the objective, so that the details are easily seen. Objectives, being made to work at a particular distance from the object, are more or less at a disadvantage when that distance is increased or lessened. The longer the bellows, the nearer the lens must approach the object, and there are limits to this procedure which are soon reached. But the low powers bear a long bellows without being at a great disadvantage much better than the higher. This is sometimes convenient to make use of. For example, by using a one-inch-and-a-half objective and three feet twenty-six inches of camera bellows, a field, including four times as much, and of the same degree of magnification, and as clear as that from a quarter-inch objective, was gained. The specimen was not one that tried the definition much—a carmine injection of the blood-vessels in a rabbit's tongue.

High powers allow of very slight or no departure from their normal working distance, just as they do not bear deep eye-piecing. But the chief disadvantage is in the lack of penetration and in the great curvature of the field.

For the above-mentioned reasons I think it will be found best, with tissues, to use the lowest power compatible with the resolution of the necessary details, and to keep as near as possible to the normal working distance of the objective. A good negative may be enlarged, to bring the details of a convenient size, without losing definition.

The high-power objectives are absolutely essential for bacteria, but in this case a large field is not especially necessary, nor is the same amount of penetration required as in a section of tissue, with a variety of details to be clearly defined.

The sections used in photo-micrography must be cut with a microtome, and must be thoroughly good in every respect if it is desired to obtain a good picture.

My experience with the different stains is limited. Carmine seems to work well, from a very delicate pink to a deep-red color. Hæmatoxylon, glycerin, and nitrate of silver have all proved satisfactory. The only case that gave me any trouble was a rather thick section, deeply stained with a dark Bismarck-brown. The cell bodies were of a very brown-yellow, and obstructed the light effectually with both collodion and dry plates, so that there was no differentiation of the nuclei or other details.

Polarized light with crystals gives most brilliant photo-micrographs. The alkaloids are easily prepared, and, perhaps, present fewer difficulties for one to begin with than tissues. The polariscope is put upon the substage as usual, and the analyzer screwed into the tube just above the objective. The blue cell is not necessary.

Positives or prints may be taken on albuminized paper, or on the non-albuminized. The latter, if well done, gives very pretty effects in gray and white. The paper should be freshly sensitized as it is needed, and, when dried, put into a box over fumes of strong ammonia (to counteract any acidity which may be developed during the toning) for twenty minutes, and then laid away smoothly in a paper bag in a cool, dry, and perfectly dark place until required.

The printing should be carried on until the details are well marked, and a little darker than they are desired to be after the photograph is finished. The ordinary toning and fixing baths may be used. The prints on albuminized paper, when mounted, should be burnished in order to secure the best result. Prints on non-albuminized paper do not need to be burnished, but afford an easy surface for the application of water-colors. Bromide paper of the finer qualities give excellent prints. It is also very convenient, since the same chemicals that are used for negatives are used in developing them, and the exposure can be made at any time in the dark room by gas-light.

The toning processes require a little practice in order to be successful, and need to be practically learned. Perhaps it would be more convenient for those who have but little spare time to send the negatives to one accustomed to printing line work, and who has all the appliances and chemicals at hand.

INTUBATION OF THE LARYNX.*

By E. FLETCHER INGALS, M. D.,

CHICAGO.

In 1858 an attempt was made by M. Bouchut, of Paris, to treat stenosis of the larynx by intubation. As the result of his experiments he reported seven cases to the Academy of Medicine, of which five were fatal and but two ended in recovery after the subsequent performance of tracheotomy. Although these results were unsatisfactory, had M. Bouchut displayed the perseverance, patience, and moderation which have characterized the author of more recent experiments, he might then have demonstrated the practical utility of the method; but, in his zeal for the new operation, he unfortunately attacked tracheotomy and brought upon himself and his method the severe criticisms of those who had seen much good accomplished by opening the trachea. Trousseau, as secretary of the commission appointed to investigate the new operation, reported:

1. Tubage of the larynx in certain cases of acute laryngitis can, by retarding asphyxia, prove of curative value.

2. In certain chronic diseases of the larynx it may allow one to delay tracheotomy, and may sometimes relieve or cure the patient.

3. In the treatment of croup it delays asphyxia and allows an easier introduction of air, and the administration of agents capable of modifying the diphtheritic inflammation.

4. It can only very rarely supplant tracheotomy, which is the principal means of opposing croup when medical measures fail.

The last declaration proved the text for a discussion which was "an extinguishment of M. Bouchut's views and methods," and intubation of the larynx was condemned as an impracticable procedure.

In M. Bouchut's experiments a tube was used from 18 to 24 millimetres long, and from 6 to 8 millimetres wide, narrowed at one end. This was pressed into the larynx on the end of a hollow sound, a thread having first been attached to it to prevent its passage into the trachea, and to facilitate its removal. This thread was brought out through the mouth, and seems to have been the cause of much irritation; but the larynx was tolerant of the tube. Previous to Bouchut's experiments and since that date, catheters have been frequently used to prevent suffocation from closure of the glottis. As early as 1801 Desault accidentally learned of the tolerance of the larynx and trachea for a foreign body of this sort by passing a tube through the nose into the trachea, instead of into the œsophagus, as he had intended. The tube remained in that position for several hours, and he only became aware of its situation upon attempting to introduce food.

This accident suggested the possibility of treating laryngeal stenosis similarly. He experimented and reported two cases. The first patient was relieved temporarily, but died the same day the catheter was introduced. His second, who had œdema of the glottis, recovered, the catheter having been retained in the trachea for a day and a half.

Within the last few years Schroetter has successfully treated chronic stenosis of the larynx by the use of hollow three-sided bougies.

In 1880 Dr. William McLean, of Glasgow, reported three cases in which he had used a catheter in the larynx, one end of which protruded from the mouth. In one case the catheter was used during a surgical operation to prevent blood from flowing into the trachea. In the second case a No. 12 catheter was retained thirty hours, and in the third thirty-six hours.

Numerous other physicians have practiced catheterization of the larynx, but with no great success.

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* Read before the American Laryngological Association at its ninth annual congress.

Dr. Joseph O'Dwyer, of New York, in 1880 began a series of experiments with intubation, which have resulted in giving to the profession one of the most useful operations of modern times. He first tried a bivalve elliptical tube with narrow transverse diameter, and having a head to prevent it from slipping into the trachea. But the membrane soon protruded between the blades, and there was a consequent return of dyspnœa. Retaining the head, he next made plain tubes about an inch in length. These were employed in three cases which he reported: The first was that of an infant, aged two months and twenty-four days, suffering from suffocative diphtheritic croup; relief was promptly obtained, but the child died in seventeen hours. The second case was that of a girl aged three years and a half, who was suffering from urgent dyspnœa. She made a rapid recovery. The third case was that of a boy aged four years; he died in twenty-four hours. At the autopsy the lower end of the cannula was found obstructed by a thick deposit of membrane. This showed the necessity for longer tubes. They were made and tried, but in a large proportion of the cases they were soon coughed out. A tube was then tried having a wedge-shaped piece of metal on either side to make it self-retaining, but it was held so firmly in the larynx that it could only be removed with great difficulty. Dr. O'Dwyer then conceived the idea of fusiform tubes which, with slight modifications, were like those in use at the present time. His present set of instruments consists of a gag, five laryngeal tubes, an applicator, an extractor, and a gauge. The tubes vary in length from an inch and a half to two inches and a half, the caliber of the largest being about one eighth by one quarter inch, that of the smallest about one half that size. At the upper end of the tube is a diamond-shaped head, with rounded angles, which rests upon the ventricular bands and prevents the tube from slipping into the trachea. The anterior aspect of the head is beveled off where it rests against the base of the epiglottis, and at its anterior part is a small eye through which a double thread is passed during its introduction. About the middle of the tube is a fusiform enlargement, designed to make it self-retaining. Jointed obturators accompany each tube, the distal end of which is rounded and of a size to close the caliber of the tube. At the proximal end also the obturator is enlarged to accurately fit the tube, and in its base is a small hole into which the end of the applicator is screwed when the tube is to be introduced. The stem of the applicator is covered by a sliding tube, which may be crowded forward by a thumb-piece to release the obturator from the laryngeal tube when the latter is in position in the glottis. The extractor is constructed on the principle of a dilator. When in use the closed blades are passed into the end of the laryngeal tube; a lever on the handle is then pressed down to open the blades, which impinge against the inner aspect of the tube and hold it firmly so that it may be withdrawn. The gauge is used in determining the size of tube necessary for a child of any given age.

You will find no difficulty in doing intubation; but those not familiar with laryngology will find it profitable to practice on the cadaver before attempting it on the living subject.

The Operation.—The child should be wrapped in a shawl and held in the nurse's lap, with the head thrown slightly backward against her left shoulder. The gag is then placed between the jaws on the left side of the patient's mouth, and intrusted to a competent assistant, who should hold it carefully in position.*

With the gag in position, the index finger of the left hand is carried over the base of the tongue behind the epiglottis to the opening of the larynx. At this point great difficulty is sometimes experienced in recognizing the epiglottis, which in young children is so soft that it can hardly be felt, though in patients over three years of age there is usually no difficulty. In very young patients the larynx is so small and soft that its outlines are indistinct to the tactile sense. To me it feels much like the end of my ring finger. I avoid trouble with the epiglottis by carrying my finger first behind the arytenoids and then slightly forward. With the finger resting on the larynx, the tube is glided quickly along the palmar surface until its end is lodged in the larynx; it is then gently forced through the glottis until its head rests upon the ventricular bands, where it is held by the index finger of the left hand while the applicator with the obturator is disengaged and withdrawn. If any difficulty is experienced in introducing the tube, the instrument should be withdrawn after a few seconds to allow the child to catch its breath; then the attempt may be repeated. The double thread attached to the tube before its introduction is allowed to remain for a few minutes until the child has partially cleared the trachea, and respiration has become fairly easy. Then the index finger of the left hand is again introduced for a moment upon the head of the tube, and the thread is cut and withdrawn. The whole time occupied after the gag is in position until the tube is safely lodged in the larynx is seldom more than a minute. Within five or ten minutes more the patient is usually breathing with perfect ease, and falls into a quiet sleep. No anæsthetic is used, and little if any pain is complained of by the patient. Subsequently the child requires no more than the ordinary care for a patient with the same malady who had not required surgical interference, excepting as to nourishment.

The patients should be fed on soft solids, and I believe that fluids must be absolutely forbidden, excepting by enemata. Most of these patients might swallow half a drachm of liquid without harm, if at the time they were always careful to bend the head well forward and a little to one side, with the chin pressed firmly against the neck. Some will swallow without any difficulty even without this precaution, and others will swallow readily a part of the time; however, the entrance of a small amount of fluid into the trachea may be sufficient to excite a fatal bronchitis or pneumonia. The best plan is to forbid the use of fluids entirely, for the child on the second day will beg so for water that the attendants are nearly sure to give it unless they have been told that it will kill the patient. After the second day the thirst seems to be much less troublesome. At the time, this direction seems almost cruel, but there is some reason to believe that withholding fluids has a decided effect in limiting the amount of diphtheritic deposit in the air-passages, as well as preventing the excitation of bronchitis or pneumonia. At most, the suffering of the patient can not be long, and, in view of the evils to be avoided, I hope those who use intubation will bear in mind the danger from the ingestion of fluids.

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* The gag which goes with this set is too small, and, unless very carefully watched, is liable to become displaced, so that the operator may be bitten. A friend of mine lost his life the past winter from diphtheria caused by a bite which occurred in this way.

I have used latterly Goodwillie's gag, which is easily retained in position; but, as an additional precaution, I usually use a broad steel band on the first finger.

The tube in the larynx is cleared by the ordinary respiratory efforts, or, if it becomes clogged, it will usually be coughed out. Not infrequently it will be coughed out during the course of the treatment; but this does not occur in more than one fourth of the cases, and then it is not apt to be more than once. The largest tube that can be used is most likely to be retained. After from four to six days in many favorable cases, the swelling and false membrane will have so much diminished that the tube may be coughed out finally, and need not be reintroduced. If not expelled, it is removed with the instrument designed for the purpose. In removing the tube, the gag should be inserted, and the extractor guided into the tube by the finger of the left hand, when, by opening its blades, the tube is caught and may be extracted. If at the same time the trachea is grasped just below the cricoid cartilage and crowded slightly upward and backward, the liability of forcing the tube into the trachea is diminished. Dr. F. E. Waxham, of Chicago, who, I think, was first after O'Dwyer to adopt this method of relieving the dyspnœa of pseudo-membranous laryngitis, has, I think, done more than any one else, excepting the originator, to popularize this operation. He has experimented quite extensively with tubes of various forms. Recently he had constructed tubes with a very small head, and a rubber collar, fitted with an artificial rubber epiglottis, designed to prevent the entrance of foreign substances into the air-passages during deglutition. He has used these with fair success, but has not yet overcome this objection to intubation.

Dr. A. E. Hoadley, also of Chicago, by accident introduced one of O'Dwyer's tubes wrong end foremost, and the patient did well for a time. Subsequently he and others employed this method of seating the tube. It was maintained that, instead of resting with its head on the ventricular bands, it could thus be crowded down so that it rested on the true cords, where it did not so much interfere with closure of the epiglottis, and therefore deglutition was more easily accomplished. Cases treated in this way did just about as well as those treated by O'Dwyer's method, I think, neither better nor worse.

Dr. Hoadley has had tubes constructed much shorter than O'Dwyer's, and with somewhat modified heads, designed to rest on the true cords. He thinks they will be more satisfactory than the longer tubes, but he has not used them. None of these are very different from some of O'Dwyer's patterns. Dr. J. Tascher, an eclectic physician of Chicago, has recently been experimenting with a short tube quite different from O'Dwyer's, with which he has had good success, having treated six patients, of whom three recovered, though in one of these the lower end of the tube became filled with false membrane, and the child nearly suffocated before it could be removed. It will be remembered that it was the liability to this accident which caused Dr. O'Dwyer to adopt the long tube. Dr. Tascher's tubes are made of German silver and are very light, with a comparatively large caliber. There are six in a set, varying in length from ¾ to 1¼ inch. They are of uniform size from the slight collar which forms the head to the lower end, and have no bulging upon the side to secure more perfect retention, which he maintains is unnecessary, on account of the position which the head occupies below the ventricular bands. These tubes are flattened at the sides and have an oval aperture measuring from ⅛ by ¼ inch to ¼ by ⅜ inch. The collar which forms the head is only about 1/16 of an inch in width. The outer edge of its lower surface, which is designed to rest directly upon the vocal cords, projects a trifle below its attached border to prevent it from slipping off the cords.

On a wet preparation of a child's larynx it has been demonstrated that this collar catches so firmly on the vocal cords that the tube can not be forced into the trachea even by using considerable force.

While this is true with this particular larynx, and although the doctor states that there is no danger whatever that the tube will be crowded into the trachea, there remains a fear that this accident may occur at times, and this fear becomes the more real from a knowledge of the fact that, at least in one case,* even O'Dwyer's tube, with its large head, has been crowded down into the trachea and caused death. With the small tubes of Dr. Tascher's it would seem that, even if they were crowded into the trachea, they would not greatly obstruct it and might be easily removed by tracheotomy, or possibly with a long tracheal forceps. The advantages of these small tubes, if they were only longer, are at once apparent, if it is a fact that there is no danger of their passing into the trachea. They are small and light, and may be so deeply seated that they do not greatly interfere with deglutition; but it remains to be seen whether they are more likely to cause ulceration of the vocal cords, and whether subsequent cases will average better than those treated by O'Dwyer's tubes. These, like the other modifications of the laryngeal tube, are introduced and removed with Dr. O'Dwyer's instruments.

I have treated twelve cases of diphtheritic laryngitis by intubation, none of which occurred in my own practice. In only three of these cases had I the subsequent care of the patient, and by a strange coincidence these were the only ones that recovered; however, one other lived for eight days and then died suddenly, an hour after the tube had been removed, either of paralysis or of spasm; and another lived eight days, but then died of pneumonia said to have resulted from exposure after the tube had been removed.

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* It is hardly necessary to state that this case has not been reported. The knowledge of it came to me through a physician for whom I had performed intubation. He told me that the child had recovered from diphtheria, and that, on attempting to remove the tube, the accident occurred with the result stated.

Of these cases, Nos. I to V, inclusive, have been reported elsewhere, but, as two of them illustrate what I wish to say of treatment, I shall be obliged to give abstracts of them here.

Case I.—Consultation with Dr. A. M. Stout A little girl two years of age. Diphtheritic laryngitis, with great lividity, dyspnœa, and stridor. Intubation; immediate relief. Death from constitutional results of diphtheria forty hours later.

Case II.—Consultation with Dr. J. F. Todd. A strong boy five years of age. This was termed membranous croup. There was considerable lividity of the lips, with recession of the chest-walls during inspiration. Intubation; complete relief of dyspnœa. The patient did well for about twenty hours. Bronchitis then developed, and the child died about thirty-nine hours after the operation.

Case III.—Consultation with Dr. C. J. Creighton. A girl five and a half years of age. Diphtheritic laryngitis, with great dyspnœa. Intubation; complete relief, but death from bronchitis in thirty-six hours.

Case IV.—Consultation with Dr. E. Garrott. Girl four years of age. Diphtheritic laryngitis, but no membrane in the fauces. Great difficulty in respiration, with recession of chest-walls. Intubation. Very soon after the tube was introduced the child coughed up a large piece of false membrane, after which dyspnœa was entirely relieved. Prescribed the mild chloride of mercury, gr. ½ to gr. j, every two or three hours. Directed that soft solids be given, but fluids withheld as far as possible. Ice was allowed freely. A little water and milk were given this patient, but she soon learned to swallow half a teaspoonful at a time, when lying on the side, without cough, which would have occurred if it had entered the trachea. However, before this, fluids had been frequently taken which had caused paroxysm of cough. Bronchitis developed, and the second or third day after the intubation there was high fever with numerous mucous râles over the entire chest. The mild chloride was continued during this time, and in addition tincture of nux vomica and carbonate of ammonium, with syrup of ipecac, were given. The fourth day the patient was better. During the latter part of this day the patient managed to get the tube out without cough, but it was not necessary to reinsert it. She made a rapid and complete recovery.

Case V.—Dr. Lilly's patient, a girl, aged four years and eight months. Diphtheritic laryngitis, lividity, great dyspnœa, and recession of chest-walls. Intubation, with immediate relief. I directed that the child should be fed on soft solids and allowed to suck bits of ice, but that very little fluid be given, and this never in greater quantities than half a teaspoonful. Unfortunately, these directions were not carried out thoroughly, but considerable fluid was given, each draught of which caused severe cough, showing that more or less of it went into the trachea. Twenty hours after the tube was introduced I found the temperature 104·8°, patient extremely restless, face becoming livid, pulse irregular, rapid, and feeble, urine scanty, and respiration sighing and imperfect. All over the chest were numerous sonorous and sibilant râles; indeed, the patient presented all the symptoms of the last stage of diphtheritic bronchitis. Such symptoms I have often seen, but have never before seen the patient survive more than two or three hours. When the child was first seen I had ordered hydrarg. chlor. mite in doses of two grains every two hours, which was still continued; but at this time I ordered tinct. nucis vom., ♏j; amm. carb., gr. j; syr. ipecac, ♏ xij; and potass. acetat., gr. iv, in syrup of licorice, to be given every two hours alternately with the mild chloride. The following morning the patient had slightly improved, the temperature being only 104°. I then discontinued the mild chloride and ordered the above-mentioned remedies to be given every hour. The relief was most marked, and I have no doubt that the comparatively large and frequently repeated doses of the cardiac and respiratory stimulants saved the child's life. The tube was coughed out and reinserted on the second day, and was again coughed out on the fourth day, but was not needed subsequently. The child recovered slowly, and it was three or four weeks before the signs of laryngitis and bronchitis had entirely disappeared.

Case VI.—Seen in consultation with Dr. B. A little girl, two and a half years of age, suffering with diphtheritic laryngitis; serious dyspnœa, with recession of chest-walls during each inspiration. Introduction of the laryngeal tube gave immediate relief, but she died about twenty-four hours later with symptoms of diphtheritic bronchitis.

Case VII.—Consultation with Dr. R. J. Price. Girl, two and a half years of age, suffering from diphtheritic laryngitis, there being no membrane in the fauces. There was great dyspnœa, which must have terminated fatally in a few hours but for the operation. Intubation: perfect relief. Patient did well for six days. Seventh day, peevish and irritable, and looking poorly. The eighth day, better. The attending physician removed the tube, and after half an hour, during which time respiration had been natural, he left the patient. He was called back in about half an hour, and found the child dying, but could not determine the cause. However, he opened the trachea, but without avail.

The cause of death in this case was inexplicable, but it seemed to have been much the same as that in two cases reported to me by Dr. O'Shea, and one of which I had verbal reports from Dr. Waxham. At the time I thought it to have been heart failure. Dr. O'Shea attributed the death in his cases to spasm. Dr. Waxham could not account for the one of which he told me, but thought it must have been from occlusion of the glottis by partially loosened membrane. It is probable that laryngeal paralysis or spasm was the cause of the fatal termination of these cases, for it is not likely that cardiac failure would have happened to occur at that particular time—half an hour to an hour after removal of the tube—when there had been no evidence of it immediately before.

Case VIII.—Consultation with Dr. G. V. Bachelle. A girl seven years of age had been suffering from diphtheritic croup for five days, and at the time of operation was livid and laboring for breath, with marked recession of the chest-walls. Intubation; complete relief; did well for six days, when the tube was removed. The parents were very careless, and allowed the child to expose herself shortly afterward, whereby she contracted a pneumonia from which she died three days later.

This case I have not counted among the recoveries, though, so far as the operation was concerned, it was entirely successful.

Case IX.—Consultation with Dr. F. A. Lilly. Boy aged four years and four months. Diphtheritic laryngitis of severe form, severe dyspnœa, the child having already passed into that listless stage which precedes a fatal termination. Intubation; great relief, but the child was so low as to be unable to cough up the mucus from the trachea. Death in twenty hours.

Case X.—Consultation with Dr. C. J. Creighton. Boy aged four years and three months. Child in almost exactly the same condition as that in the preceding case. Intubation; complete relief from dyspnœa, but the child died in about twenty-one hours.

Case XI.—Consultation with Dr. B. Girl aged three and a half years. Diphtheritic laryngitis, urgent dyspnœa, and impending death. Intubation; perfect relief. In this case the child ceased to breathe before the tube was inserted, but it was introduced quickly and artificial respiration was instituted, whereby the patient was resuscitated. Here I had urged the necessity of withholding all fluids, but about fifteen hours after the tube had been inserted I was told that the child had learned to swallow easily, though how long it had been practicing with fluids was not stated. I at once mentally affixed to its record the word dead. The patient died at the end of about twenty-four hours of diphtheritic bronchitis.

Case XII.—Consultation with Dr. P. Matthei. Boy aged four years. Had been sick five days. Diphtheritic laryngitis, with labored respiration and recession of the chest-walls. Intubation; perfect relief of dyspnœa, and the child, as usual in such cases, soon fell into a quiet sleep. Directed that soft solids be given and ice to quench thirst, but forbade a drop of fluid in any other way. Ordered hydrarg. chlor. mite, gr. j, every hour. The next morning (twenty-four hours later) pulse 132, temperature 100°, a little cough, and easy expectoration, but no signs of bronchitis. The child was now begging for water, but I impressed the friends with the danger, and water was still forbidden excepting by enemata. The child was very restless during the day, apparently on account of thirst, and begged piteously for water, milk, wine, beer, or anything that it might drink. The friends thought he was becoming delirious for want of water. Fearing they would yield, I told them that they would kill the child if they gave it anything to drink. Even the physician, kind-hearted man that he is, interceded in behalf of the child, but I was so strongly impressed with the necessity for the measure that I still firmly refused; and, as the family had just lost one little one from diphtheritic laryngitis after tracheotomy, they were sufficiently frightened to follow my orders, excepting that they gave fluids *per rectum* but once. The second day the pulse was 130, respiration 28, temperature 99·5°. The child had rested quietly through the night and asked very little for water. The mild chloride was now given less frequently—only once in four hours—and alternately with it a grain of quinine. No râles over the chest. The morning of the third day pulse 136, respiration 24, temperature 98°. The patient had rested well, but had eaten little since the operation, and had had only two nutritive enemata during the whole time, instead of three or four daily, as had been ordered. A very few bronchial râles could be heard at this time. The child had ceased to ask for water. Early the following morning (fourth day), with a slight cough the tube was expelled. Breathing remained easy, so that it was not necessary to reintroduce the tube. Pulse 132, temperature 96·2°. After the tube had been removed milk was given, but some of it found its way into the trachea and excited cough. However, very little trouble was subsequently experienced from this source, and the child made a complete recovery.

Of these cases, those numbered IV, V, and XII indicate the course of treatment which I believe to be most efficient after intubation for diphtheritic laryngitis: 1. Prohibit all fluids excepting by enemata, and insist upon this so forcibly that your orders will be obeyed. 2. As another safeguard, give some preparation of mercury in comparatively large and in frequent doses. 3. In case of the development of bronchitis or pneumonia, give respiratory and cardiac stimulants freely but judiciously.

In Case IV my directions were followed very well, but I allowed water or milk to be given in small quantities, hence the bronchitis.

In Case V fluids were given far too freely, hence the bare escape from death.

In Case XII I told the friends they would kill the child if they gave a teaspoonful of fluid, hence the recovery with but little bronchitis. There may be too small ground for these conclusions, but I am fully convinced of the necessity of withholding fluids excepting when given in such manner that they can not possibly enter the larynx.

(*To be concluded.*)

LIGATURE OF THE INTERNAL JUGULAR VEIN FOR A KNIFE-CUT.

By F. TIPTON, M. D.,

SELMA, ALA.

I was standing in the door of a drug-store one afternoon when I saw a young man suddenly burst from a neighboring barber-shop and rush directly toward me. He was covered with blood and held his hands to a huge gaping wound in the neck, from which the blood ran in spouts (no other word can express this deluge of blood, as he reeled and fell into my arms, pulseless and fainting). He gasped out, "The damned scoundrel has murdered me with a razor," and sank to the floor, covering me with a torrent of blood. I instinctively pressed my thumbs into the gaping wound and checked further loss of blood until I could get help. I found upon removing my thumbs that the internal jugular had been cut about half way across, and the external completely severed, and saw at once that a ligature was the only hope in this tragic extremity. Fortunately, my buggy was near, containing my surgical case, which I always kept ready for such emergencies, and, more fortunately still, the doctor who happened to be near to aid me was fresh from his service as an interne in one of our large hospitals, and needed, of course, no "telling what to do." Getting him to relieve my thumbs from their position over the wound, I slipped an aneurysm needle around the vessel on the distal side of the wound, tightened the ligature, and, to my delight, saw the bleeding checked at once. By this time the man was cold, pulseless, and livid beyond recognition, having lost, it seemed to me, all the blood in him, but by degrees he rallied and soon became quite well and strong again. When he was taken home, I had the foot of his couch raised, hoping thereby to keep blood enough in his head to sustain life, but he soon began to bleed again, and I was greatly troubled, thinking that I should have to open the wound and ligate on the proximal side of the cut; but in my trouble it suddenly flashed over me that the blood would not *run up hill*, so that, instead of keeping his head lowered, thus favoring bleeding by gravitation, I raised his head and neck so as to prevent this, and, presto! the bleeding was done with for ever. Being wealthy, he was watched by relays of physicians, day and night, until out of danger. The ligature hung on for several months before coming away. Nothing saved this young man's life but celerity of action, both on his part and on the part of his surgeons. I think, even then, had I not had the help of Dr. King, the hospital interne, he might have been lost by inexperienced assistance.

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WESTERN MEDICINE AMONG THE ORIENTALS.

The article entitled "The Photo-micrography of Histological Subjects," which we publish in this issue of the Journal, is of a character to command attention, we think, under any circumstances. The reproductions of photographs that accompany it will doubtless be admitted by our readers as proving that the author has to a remarkable degree mastered technical details which, if not in themselves difficult, are at least such as call for the exercise of those mental qualities that lie at the very foundation of aptitude for experimental work. The article itself points to more than mere technical achievement; it indicates a good working knowledge of the science of optics, and, by its incidental allusions, it reveals its author's familiarity with science in general. Its simple, descriptive style does not rob it of these characteristics; perhaps it makes them stand out all the more prominent, for the natural, unaffected portrayal of art is quite as telling as its artful concealment. We repeat, then, that the article is one that would be noticeable without regard to anything which might pertain to its author. The fact that the author is a lady will hardly be looked upon nowadays as materially heightening the interest attaching to the article, for of late the world has grown accustomed to scientific attainments by women, and has ceased to wonder at them. When we add, however, that the lady in question is a native of China—and by that we mean, not that she was born of western parents resident for the time in China, but that she is of the pure Chinese race—we give what we regard as ample reason for viewing her work as something more than creditable. To us it is wonderful.

Trusting that we may avoid doing injury to Miss King's modesty, we will allude to some of the incidents of her career. She is the granddaughter of a Chinese physician of the native regime, and her good friend Dr. McCarty playfully speaks of her fondness for medicine as a manifestation of atavism. Her parents were converted to Christianity by the efforts of American missionaries, and her father became an assistant to Dr. McCarty, who was then doing duty as a medical missionary in China. During Miss King's childhood her father died, and Dr. McCarty adopted her. Seven years ago he brought her to this country. She learned the English language before she left China, and she may also at that time have begun to give some attention to scientific study, for Dr. McCarty was for several years a professor of natural history in Japan. On this point, however, we have no positive information, but we infer that her preliminary education must have been largely carried on before she came here, for it can not have been long after her arrival in this country that she entered the Woman's Medical College of the New York Infirmary for Women and Children. Since receiving her degree in medicine from that institution she has devoted her time to post-graduation courses, to laboratory work, and to clinical observation in the hospitals. She is now on her way back to China, where she intends to practice medicine.

We have frequently commended the work of our medical missionaries in China, but never before has there come to our knowledge so striking a manifestation of the beneficence of the missionary's task as the rescue of such a mind as Miss King's from the doldrums of Chinese life and its promising start on an active scientific and humanitarian career. Were it the only achievement that our missionaries could point to, their labor would still have shown its title to the utmost support and encouragement that our people can give it. As to how far it is desirable, in general, that women should embark in the study and practice of medicine, opinions vary widely; without entering upon that question, we may say without qualification, and with no fear of rousing dissent, that, if there is anywhere a real need of women as physicians, it is in those communities where, as in Asiatic countries, an inexorable social system practically denies to sick women the access of other practitioners than those of their own sex. To have contributed to meeting this state of things so efficiently as has been done in the present instance by the Woman's Medical College of the New York Infirmary gives that most worthy institution an additional title to the support and confidence of the medical profession and the community.

MINOR PARAGRAPHS.

A PHARMACIST'S NEGLIGENCE.

"Lyon médical" quotes from one of the French newspapers an account of a lady's sudden death after taking a potion prepared by a pharmacist. At the inquest it was shown that death must have resulted from poisoning with strychnine, and, although suspicion was at first directed to a servant in the family, an action was brought against the pharmacist, the ground taken being, not that he erred in putting up the prescription, but that he gave the lady the medicine in a bottle that had been used for strychnine, and neglected to cleanse it. He was convicted, mainly on the strength of his extraordinary efforts to dispose of the bottle after the lady's death, and sentenced to three months' imprisonment, and to pay a fine of 100 francs and damages to the same amount.

MR. TAIT'S ADDRESS.

It is proper that we should state that Mr. Tait is not responsible for the title of his presidential address as it appears in this issue of the Journal. In his manuscript the address had no title; we have taken the liberty of giving it one, and we trust that it will not prove either misleading to the reader or unsatisfactory to the author. Mr. Tait's reminiscences are exceedingly interesting, like everything else that he writes, and his account of his early work with the Listerian system of antisepticism will have the charm of novelty for most of our readers. For our part, we do not feel the force of the considerations that appear to have led Mr. Tait to the abandonment of Listerism, although the point he makes of the resisting power of living tissue is remarkably well put. In the interest of the catholic spirit that should always characterize scientific inquiry, it is pleasant to note the appreciative way in which Mr. Tait speaks of the work of Sir Joseph Lister and Sir Spencer Wells, but it is equally a subject of regret that he should have displayed an anti-German feeling, and especially that he should have gone to the extreme length of intimating that the time which he spent in learning the German language was wasted. We have lately commented on the injuriousness of allowing considerations of nationality to influence one's opinions in science. Whatever may be the prevailing feeling on that general question, German research is certainly so much in the ascendant at the present time that the remark referred to will not, we think, be widely assented to.

OROYA FEVER AND VERRUGA.

A RECENT article by Dr. Cucca, published in the "Morgagni" and summarized in the "Gazette hebdomadaire de médecine et de chirurgie," gives a succinct account of certain inquiries into the nature and behavior of the verruga of the Peruvians, a disease that derives a melancholy interest from the fact that Dr. Carrion, of Lima, lost his life, not long ago, in an heroic attempt to demonstrate its lack of contagiousness. Verruga, the author says, has been shown to be nothing else than an infectious sort of fibroma, and its bacillus has been studied by Professor Izquierdo, of Santiago, although by some it is still thought to be of telluric origin. The Oroya fever is simply a febrile phase of verruga.

THE MEDICAL SOCIETY OF THE COUNTY OF ERIE.

WE are glad to see, by an account given in the "Buffalo Express" of a recent meeting of the society, that that body is making a vigorous effort to rid itself of certain members who, if the allegations brought against them are sustained, are certainly of no credit to the organization. The charges include that of advertising and selling nostrums and that of circulating documents comparable only to those commonly emanating from quacks. The society can not act too decisively or too promptly in this matter, provided it is sure of the facts.

THE REMOVAL OF A TUMOR FROM THE SPINAL CANAL.

THE "Lancet" gives a brief account of a case in which, on the 9th of June, Mr. Victor Horsley successfully removed a pinkish, elastic, vascular growth, of about the size of the tip of the little finger, from within the spinal meninges on the posterior root of a nerve at about the level of the third dorsal vertebra. The spinous processes were removed with a bone forceps, and then the laminæ were trephined. The incision through the membranes was at least three inches long. The patient was paraplegic, and the diagnosis of a growth pressing on the spinal cord was made by Dr. Gowers and confirmed by Sir William Jenner. Certain painful and spasmodic manifestations in the lower limbs were diminished after the operation, but the paraplegia still continued.

INTUBATION OF THE LARYNX IN ENGLAND.

IN the course of some remarks appended to a report of three cases of intubation, in the Bristol Royal Infirmary, published in the "Lancet," Dr. Shingleton Smith and Dr. Waldo state that in each of the cases they would have been obliged to perform tracheotomy had not intubation been substituted. Upon the question of the comparative advantages of the two operations they do not enter, but their publication is intended to show that in some cases intubation is attended with perfectly satisfactory results, but that there are dangers connected with it that are somewhat more serious than some recent writers would lead us to suppose. Two of their three patients recovered. The one that died swallowed a tube, but that seems to have had nothing to do with the death.

CERTAIN TROPHIC SEQUELÆ OF RHEUMATISM.

AT a recent meeting of the *Société médicale des hôpitaux*, an account of which is given in the "Union médicale," M. Renaut related a case of exceptional trophic manifestations imputed to rheumatism, consisting in a shedding of the hair and the nails. The author gave a brief sketch of the literature of trophic disturbances attributable to rheumatism, beginning with Hunter's reports of certain muscular atrophies due to articular rheumatism. Such occurrences, he thinks, argue in favor of the nervous theory of rheumatism.

THE PECULIAR ODORS OF CERTAIN DISEASES.

IN the concluding portion of a continued article on "Fever," published in the "Medical Chronicle," James Niven, M. B., alludes to the diagnostic interest of the special odors attendant upon some of the infectious diseases. The odor of small-pox, he says, occurs only in the worst cases, and is probably due to a ptomaine generated in the process of necrosis. He then speaks of a peculiar sweet, almost aromatic odor of the breath that he has noticed in scarlet-fever patients, most marked in the early stages of the disease. A case is mentioned in which a nurse to whom he had pointed out the odor diagnosticated scarlet fever by means of it, in a patient at the height of an attack of small-pox, a whole day before any other scarlatinal symptoms were recognized. Somewhat similar odors are noticed in typhoid fever and measles, but the author says that they can readily be distinguished.

A SCHOOL FOR TRAINING MEN AS NURSES.

IN all our large cities there are now very fair facilities for training young women as nurses for the sick, and the graduates have borne a part in ameliorating the condition of the sick that can hardly be over-estimated. But the lady-nurse is sometimes out of place, and the lack of a corps of men at all fitted to attend upon the sick is one that has been seriously felt. The want is likely soon to be provided for by the Charity Hospital Training School for Male Nurses, under the direction of the Commissioners of Public Charities and Correction, and under the immediate management of four members of the medical board of the hospital. The course of instruction announced in the circular is such as is likely to make the men careful and docile nurses rather than pretentions and ambitious supplementary advisers.

THE COMMUNICABILITY OF LEPROSY BY VACCINATION.

IN a recent issue of the "British Medical Journal" the melancholy story is told of the transmission of leprosy from one child to another by vaccination. Not the least harrowing part of the unfortunate chain of events is the fact that the vaccinifer was the child of the physician who performed the vaccination. The inoculation happened many years ago, but the facts are now publicly stated for the first time by Professor Gairdner, of the University of Glasgow, the unfortunate vaccinator having died. Cases have before been published in which leprosy was supposed to have been conveyed in vaccination; but the one in question shows a clearer sequence of cause and effect than we remember to have seen in any of the other accounts. Such occurrences serve as an additional argument in favor of dropping the practice of arm-to-arm vaccination, and more generally resorting to the use of calf-lymph.

"THE DEADLY TOY-PISTOL."

Dr. John Homans has lately made certain pointed statements concerning the damage done by this infernal contrivance, in the form of a letter to the editor of the Boston "Transcript." He says he has now two boys under his care whose hands have been injured by the toy-pistol, and that four years ago he had five patients whose injuries were due to the same implement, all of whom died of tetanus. He thinks the wound is generally produced by the cartridge exploding in the hand, either by coming back through the breech or in some other way.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 28, 1887:

DISEASES.	Week ending June 21.		Week ending June 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	3	3	11	5
Scarlet fever	63	11	58	12
Cerebro-spinal meningitis	6	7	4	3
Measles	37	5	30	5
Diphtheria	136	53	124	53
Small-pox	3	2	1	1

Change of Address.—During the months of July and August, Dr. Andrew F. Currier will be at the Fort Griswold Hotel, New London, Conn.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 19, 1887, to June 25, 1887:*

Sutherland, Charles, Colonel and Surgeon. Granted one month's leave of absence, with permission to apply for an extension of one month. S. O. 126, Division of the Atlantic, June 23, 1887.

Smith, A. K., Lieutenant-Colonel and Surgeon. Will be relieved from duty at West Point, N. Y., on September 30, 1887, instead of on August 28, 1887. S. O. 144, A. G. O., June 23, 1887.

Alden, C. H., Major and Surgeon. Leave of absence extended to include September 29, 1887. S. O. 144, A. G. O., June 23, 1887.

Bartholf, J. H., Major and Surgeon. Granted leave of absence for two months, to take effect about July 5, 1887. S. O. 141, A. G. O., June 20, 1887.

Richard, Charles, Captain and Assistant Surgeon. Sick leave extended two months on surgeon's certificate of disability. S. O. 139, A. G. O., June 17, 1887.

Cochran, John J., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 143, A. G. O., June 22, 1887.

Suter, William N., First Lieutenant and Assistant Surgeon. Designated as medical officer for the Rifle Camp at Creedmoor, N. Y., July 5, 1887. S. O. 124, Division of the Atlantic, June 21, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 25, 1887:*

Cleborne, C. J., Medical Inspector. Ordered for examination preliminary to promotion as Medical Director.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to Receiving-ship Franklin, Norfolk, Va.

Horwitz, P. J., Medical Director. Permission to leave the United States for six months.

Harris, H. N. T., Assistant Surgeon. Commissioned Assistant Surgeon in the Navy, June 13, 1887.

Spear, J. C., Medical Inspector. Detached from Naval Laboratory and granted three months' leave.

Bloodgood, Delavan, Medical Director. Detached from Naval Hospital, Norfolk, Va., and ordered to the Naval Laboratory.

Bradley, Michael, Medical Inspector. Ordered to Naval Hospital, Norfolk, Va.

Beyer, H. G., Passed Assistant Surgeon. To remain on present duty until September 1, 1887.

Herndon, C. G., Passed Assistant Surgeon. To remain on present duty until June 17, 1888.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending June 25, 1887:*

Guitéras, John, Passed Assistant Surgeon. Detailed for temporary duty at Key West, Fla. June 23, 1887.

Wasdin, Eugene, Passed Assistant Surgeon. Relieved from duty at Marine Hospital, New York, N. Y.; ordered to Marine Hospital, Chicago, Ill. June 23, 1887.

Norman, Seaton, Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. June 23, 1887.

Heath, F. C., Assistant Surgeon. Relieved from duty at Chicago, Ill. June 23, 1887.

Society Meetings for the Coming Week:

Tuesday, *July 5th:* Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Society of the County of Broome, N. Y. (quarterly); Medical Societies of Hudson (Jersey City) and Union (quarterly) Counties, N. J.; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society.

Wednesday, *July 6th:* Medical Society of the County of Richmond, N. Y. (annual—Stapleton); Bridgeport, Conn., Medical Association.

Thursday, *July 7th:* Society of Physicians of the Village of Canandaigua, N. Y.; Washington, Vt., County Medical Society.

Friday, *July 8th:* Medical Society of the Town of Saugerties, N. Y.

Saturday, *July 9th:* Worcester, Mass., North District Medical Society.

OBITUARY NOTES.

Edgar F. Peck, M. D., of Brooklyn, died on Tuesday, June 21st, in the eighty-first year of his age. The deceased was a native of Amenia, N. Y., and was graduated from the College of Physicians and Surgeons of New York in 1833, having been licensed to practice, in 1830, by the College of Physicians and Surgeons of the Western District of New York, at Fairfield, an institution which was organized in 1812, and became extinct in 1840. He settled in New York in 1831, and in 1832, when the city was threatened with the Asiatic cholera, he was appointed by the medical council, who recognized his abilities, to take charge of the medical stations in the Twelfth Ward and of the hospital in Twelfth Street; he also had the care of several other medical stations in the upper portion of the city. Dr. Peck's professional career was long, honorable, and useful, and his retirement from active work was enforced by the infirmities of age, as he was confined to his house for the past six months The immediate cause of his death is said to have been paralysis, with which he was stricken about two weeks before his death. He was a member of the Medical Society of the County of Kings.

Lewis B. Hunter, M. D., medical director on the retired list of the navy, died in Philadelphia on Friday, June 24th, at the age of eighty-three. He was a native of New Jersey, and was appointed an assistant surgeon in the navy in January, 1828. In February, 1837, he was commissioned as surgeon, and, after twenty-nine years of active service in the Mediterranean Sea, on the coast of Africa, the west coast of Europe, the Pacific coast, the coast of Brazil, and in the North Atlantic squadron, he was placed on the retired list, October 9, 1866. In March, 1871, he was commissioned as medical director.

John A. Stevens, M. D., of Hartford, Conn., died on Saturday, June 25th, at the age of forty-six. The deceased was a graduate of the Medical Department of the University of the City of New York in the class of 1872. He was a member of the Hartford City and County Medical Association, of the Connecticut State Medical Society, and of the American Medical Association.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of June 22, 1887.

Dr. H. Augustus Wilson in the Chair.

The Relation of Pyosalpinx to Puerperal Fever.—Dr. J. M. Baldy read a paper with this title. Until within a few years the term "puerperal fever" had been applied to certain conditions of the parturient woman without conveying any very definite idea as to the exact pathological lesion involved. As in microscopy we designated everything that we were unable to recognize by the general term "molecular débris," so in the parturient woman we had been in the habit of applying the meaningless term "puerperal fever" to a set of symptoms the origin and source of which we knew not. As usual in such a condition of ignorance, innumerable theories had sprung up on the subject—the most widely accepted of which was probably that advocated by Fordyce Barker, viz., that it was a specific febrile disease.

Thanks to the zeal of bacteriologists, we had now conquered our ignorance and could state, without hesitation or fear of successful contradiction, that the disease under discussion was of undoubted septic origin. We were therefore justified in dropping the ambiguous term of the darker ages and applying terms more in accordance with our advanced knowledge of the pathological lesion. The author had no intention of entering into an exhaustive discussion of all the phases of puerperal septicæmia, but would briefly try to add something to our knowledge of the particular subdivision which, for want of a better name, he would call puerperal pyosalpinx.

The belief that a certain proportion of our so-called puerperal fever cases were simply cases of salpingitis septica was by no means a new one, nor was it original with himself. Martin, in a recent investigation, had found the micro-organisms of puerperal septicæmia in as many as seventy out of a series of two hundred and eighty-seven cases of inflammatory tubal trouble.

Schröder had held that septic endometritis did not extend to the tubes, as a rule; but he had qualified this opinion by following it up closely with the remark that *occasionally* the endometritis did go on to a purulent salpingitis. Nor was Sänger silent on this subject, for he had only recently stated, in a letter read before the Chicago Gynæcological Society, in answer to one from Mr. Tait, that salpingitis septica co existing with severe puerperal septicæmia had never as yet given the surgeon an opportunity to remove the principal focus of disease by extirpation of the tubes. It is possible, however, that under certain circumstances such a procedure might be indicated. Even before these words of Sänger's were in print the opportunity to remove the principal focus, and, he might say, in this case the only focus, of disease, *had* occurred and been taken advantage of. [The history of the case was then given.]

That these cases existed much more frequently than we had any idea of was certain, and that oftentimes a life, otherwise doomed, could be saved by operative interference, was but a natural conclusion Mr. Tait had mentioned four deaths from this cause in Queen Charlotte's Hospital, as verified by post-mortem examinations, and said that "these cases during life were all regarded as puerperal fever." Sänger had come forward with two cases which had come to his knowledge, in which the overdistended tubes had burst and discharged pus into the abdominal cavity, with death on the fourth day after confinement in one case, and on the twenty-first day in the second case. Who could doubt that, in the light of our present surgical knowledge, if these cases had been recognized and operated on, the women would have all survived? The day had passed, he hoped, in which we should allow a woman to die of pus in her abdomen without at least proposing an abdominal section, not merely as a last resort, but as an early means of relief and safety. It was by no means to be held that, because a parturient woman had an inflammation of her tubes, she was to be rashly submitted to the knife of the surgeon. He had, within the past few months, seen a woman who presented an elevated temperature, with anorexia, restless nights, and other general symptoms, and whose tubes, on examination, he had found enlarged and painful. Under careful treatment this local trouble all subsided, and with it the general symptoms disappeared, and the patient made a satisfactory recovery. These mild cases, however, often went on to a chronic condition when unrecognized and neglected, and the woman eventually fell into the surgeon's hands to be relieved of a pus-tube, and then generally got the credit of having had a gonorrhœa at some period of her life, or else dragged out a miserable existence until she died of her trouble, or some other disease put an end to her suffering. [An illustrative case was cited.]

The only regret he had in regard to either of these cases was that he had not removed both appendages. One of the patients had recently had an inflammatory attack in the remaining tube, from which she had recovered, but he feared the time would come when another operation would be required. He thought that, where pus was found, both tubes should be removed always, whether one was apparently healthy or not, the patient being willing, of course.

Whether or not this disease arose *de novo*, or, having already existed from other causes, had simply a new inflammation added by the puerperal condition, must be determined by careful investigation in each case. Hecker, as early as 1878, had mentioned two cases in which an old pyosalpinx was lighted up by the puerperal state, and Sänger had added another from his own practice in which the salpingitis had a prior existence. In the case first cited in the paper, the patient had been apparently perfectly well up to the time of her last confinement, but the adhesions were of such a firm character that it was safe to presume that there was an old inflammatory trouble prior to this time. It was impossible to imagine the formation of such organized bands in so short a space of time. At her first confinement she had "an inflammation in her stomach," and that was the probable beginning of her trouble. She undoubtedly had had tubal disease ever since (probably pyosalpinx), and had not suffered enough inconvenience from it to seek advice. This was often the history of these women; they complained of pain and general ill-health, loss of flesh, anorexia, sleepless nights, etc., but oftentimes they did not even suspect the real origin of all their trouble. The result in the case of this particular patient was a valuable lesson of the dangers of such a neglect, and an additional reason why the disease should always be removed when recognized.

Of course, the possible contagion of gonorrhœa could never be eliminated excepting by a microscopical examination. In both his cases, although the trouble seemed very clearly to have arisen at the time of confinement, yet the chances of gonorrhœal infection both before and after pregnancy were not to be denied; however, in the absence of a microscopical examination, the chances were all in favor of a purely puerperal origin. But, whatever the source, the results were the same, and it was only by prompt measures we could hope to save some of these patients. It was no longer surprising that, even under the most careful antiseptic treatment of the uterus, vagina, and person of the patient, as well as the person of the attendants, still patients were lost from septic poison. This disease had been recognized and operated on at least four times in Philadelphia; one case just two weeks previous to his, by Dr. Longaker, in which a pyosalpinx was removed, the patient dying on the second day. This operation had been delayed three or four days after an abdominal section had been urged. Dr. Joseph Price had since operated twice, and in one case had found more than a quart of pus in the abdominal cavity; the case, unfortunately, had come into his hands too late, and the patient survived only two days.

These cases, though few in number, certainly taught that the work done in this direction was encouraging, and, although a large percentage of the patients had died, it only warned us of the extreme importance of an early diagnosis, and prompt surgical interference. It became our imperative duty in every case of post-puerperal trouble to make a thorough investigation on the appearance of the first symptoms, and, should a fullness be found on either or both sides of the uterus, accompanied with pain on touch and with constitutional symptoms of gravity, there should be no hesitation as to the course to pursue. This being secured, our present high mortality of one woman out of every hundred delivered in large cities, as recently stated in a statistical paper on lying-in charities in the United States, must be very largely diminished, and the fatal results now surrounding our parturient women must become infinitely less.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of February 9, 1887.

The President, Dr. T. Mitchell Prudden, in the Chair.

On Staining Elastic Tissues.—Dr. Freeborn showed specimens illustrating two new methods of staining elastic tissues, one known as Lustgarten's and the other as Herxheimer's. The elastic tissues were made to stand out very sharply by each of these methods.

Pott's Disease of the Spine.—Dr. Ridlon presented a part of the spinal cord of the upper dorsal region of a girl, aged six years, who had been treated in the orthopædic department at St. Luke's Hospital in 1883. There was then a curve in the upper dorsal spine, first noticed in 1881. When she was admitted there was a decided kyphosis in the upper dorsal region; the patient was unable to stand, and had very little voluntary motion in the lower extremities. The tendon reflexes were greatly exaggerated. From October 24, 1883, to January 29, 1885, there was no treatment except rest in bed. In the mean time the paralysis in the lower extremities had become complete. From the latter date there was gradual improvement, and finally the patient was able to walk the length of the ward, the spine being supported. On January 27, 1887, she began to have difficulty in breathing. She died about February 7th. The post-mortem, by Dr. Frank Ferguson, showed pulmonary and cardiac disease, also caries of the seventh cervical and the first five dorsal vertebræ. The angle of the curve was sharp, the lower surface of the sixth cervical and the upper surface of the sixth dorsal vertebræ being not more than an inch and a half apart. The space between was filled with cheesy material. The cord was flat at this point, and the gray substance was not distinguishable. Below and above the angle the cord was normal. The case suggested the following remarks: In the beginning of a case of paraplegic kyphosis, how could it be determined whether three months or three years, six months or six years, would be required for recovery? What treatment should be adopted? The speaker had used iodide of potassium, and had concluded that it was of no benefit unless there was syphilis. Absolute rest in bed from three months to several years was followed by recovery from paralytic symptoms in most cases. Dr. Ferguson had said that in a number of cases in which the prominence was in the upper dorsal region he had found dilatation of the right side of the heart and resultant lung symptoms. The specimen was referred for examination, to determine particularly whether there was entire absence of the gray matter of the cord at the point of pressure.

Dr. Van Santvoord referred to a case of paraplegia from kyphosis in the middle dorsal region in which, when he was an interne at Bellevue Hospital, he had applied the actual cautery, shortly after which the patient was able to walk about the wards.

Dr. Ira Van Gieson suggested that the re-establishment of motor function might have been by way of collateral tracts.

Dr. Carpenter related a case of Pott's disease in which paraplegia was recovered from after three or four years' duration.

Meningitis.—Dr. H. J. Boldt presented the lungs of a child, nine months old, which had been quite healthy to all outward appearances until four or five days before its death, when symptoms of meningitis developed. There had been no symptoms directing attention to the lungs, yet at the autopsy, besides the lesions of simple meningitis, he found pleuritic adhesions, and a pus-cavity in one lung surrounded by fibrous tissue.

Inflammation of the Uterine Appendages.—Dr. Boldt also presented a uterus with diseased appendages removed post-mortem from a woman in whom a small ovarian cyst had been diagnosticated and an operation for its removal proposed, but declined. The uterine extremities of the tubes were closed; an inflammatory mass in which the tube and ovary were not distinguishable occupied the left side; an ovarian cyst was present in the inflammatory mass on the right side. In the retroperitoneal glands there were little tumors, apparently sarcomatous. The speaker thought the case illustrated the importance of early operation, although the pelvic tumor was small.

Anthracotic Pneumonia.—Dr. W. H. Porter presented a pair of lungs illustrating a condition which he had observed in a number of cases this winter. The patients were men who had been at work in the new aqueduct, and gave a history of having had a chill, followed by a rise of temperature to 103° or

104° F.; after a week the symptoms abated, and they became pretty comfortable. But a persistent dyspnœa remained, and most of them died with œdema of the lungs. The lungs presented were deeply pigmented, and showed lobar pneumonia. He had not completed the examination for bacteria.

Dilated Ureters.—Dr. Thatcher presented a ureter dilated by several small polypi developed from the lining membrane. He also presented the ureter of a fœtus of six months, dilated to the size of its thigh.

Panophthalmitis from Injury.—Dr. Van Gieson presented specimens showing penetration of the sclera one ctm. behind the sclero-corneal junction by a thorn passing through the globe as far as the ciliary body. Enucleation was performed three weeks after the accident.

Tubercular Disease of the Pharynx.—Dr. R. Van Santvoord presented specimens from a child which, some months before its death, had had fever, cough, and râles over the chest. The diagnosis of pulmonary tuberculosis was made. A few days before death the nurse called attention to the fact that the patient had difficulty in swallowing, but, no trouble in the throat being discovered, the symptom attracted little further attention. One large ulcer and others not so large were found in the pharynx after death. There was broncho-pneumonia. Such cases were of considerable interest on account of their rarity, but they might be more frequent than the books would indicate, as the pharynx was seldom examined.

Vaginal Hysterectomy.—Dr. Dudley presented a uterus removed by the vagina from a woman, aged forty-eight years, on account of carcinoma. After the *cul-de-sac* was opened, a small fibroid of the uterus was found, and the speaker was obliged, after passing an elastic ligature around the uterus, to remove it piecemeal. This method of operating made the use of ether necessary for three hours. The patient rallied well, but the next day there was suppression of urine, which caused death thirty-eight hours after the operation.

Sloughing Fibroid of the Uterus.—Dr. Dudley also presented a sloughing fibroid removed from the interior of the uterus, which had given rise to hæmorrhage and pain. The patient had an intermittent heart beat and also an aortic murmur. There was also albumin in the urine, which disappeared under the use of digitalis and potassium acetate. Notwithstanding the condition of the heart and urine, he gave ether. It was given a second time yesterday for closure of a double laceration of the cervix, and it would be given a third time for an operation for laceration of the perinæum extending into the rectum.

Polypus of the Uterus.—Dr. Dudley presented a third specimen, a small polypus of the uterus, of interest from the fact that it was removed two years after the menopause, and at that time the uterus was found not diminished in size, but rather enlarged. The cervix was small.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of February 28, 1887.

The President, Dr. Laurence Johnson, in the Chair.

The Duration of the Syphilogenic Capacity in Relation to Marriage.—Dr. P. A. Morrow read a paper with this title. Two facts distinguished syphilis from other contagious diseases—viz., prolonged virulence and capacity of hereditary transmission. What, he asked, was the duration of the contagious stage of syphilis? Less than a generation ago there would have been little difficulty in obtaining a definite answer to this question, for the majority of physicians would have said that it began and ended with the chancre. Yet the older writers thought that all the elements of the body in one affected with syphilis were capable of conveying the contagion. The author thought the general impression that secondary syphilis was contagious, while tertiary syphilis was not, had not a good basis, for there might be precocious tertiary lesions, occurring as early as secondary lesions usually did, and no one would dare inoculate himself from such lesions lest he should be infected. Moreover, secondary lesions might occur late, at a time when tertiary lesions usually made their appearance; while it had not been proved by experiment that these late secondary lesions were capable of causing infection, yet there was clinical evidence, direct and conclusive, going to establish their contagiousness. Instances were cited from Fournier and other authors in which a syphilitic lesion, after five or six years' duration of the disease, had given rise to infection. A second question related to the limit of the period during which syphilis might be transmitted from parent to offspring. The teachings of science upon this point were by no means fixed and definite. It was well agreed, however, that after a variable time the syphilitic taint ceased to be manifest in the offspring, and subsequent pregnancies resulted in healthy children; but this period could not be fixed with anything like mathematical certainty. A further question arose as to whether both parents were capable of transmitting the disease, and an investigation of facts bearing on this point showed agreement among most authorities that the influence upon the offspring of syphilis in the mother was much more pronounced, and of much longer duration, than that of the father. Some authors, however, maintained that the transmission was always through a syphilitic mother. But there were many well-observed cases in which the mother had not for years manifested any signs of syphilis, which had been transmitted from her syphilitic husband to her offspring, thus proving conclusively, the author thought, that the disease could be inherited from the father. He then quoted from a paper written by Dr. Otis, giving expression to views which he thought should be refuted, as they would, if accepted, prove dangerous to the community. Dr. Otis, he said, maintained that the father was incapable of transmitting syphilis except by infection of the mother; and after three years the manifestations of syphilis in the male could not produce infection. The testimony offered by Dr. Otis was of a negative kind, while opposed thereto was testimony of a positive nature by numerous responsible persons whose observations could not be rejected as erroneous. The conclusions of Fournier regarding the admissibility of marriage after one had had syphilis were much safer and more broadly stated than those of Dr. Otis.

Dr. F. A. Otis said that the number and magnitude of the questions raised in Dr. Morrow's elaborate paper rendered the task of considering any one of them thoroughly in the brief space likely to be allotted in a discussion like the present simply impossible. Little more could be done than to enumerate the chief points at issue, and reply to the statements which had been made, evidently with the intention of controverting the argument made by himself in a paper read before the Medical Society of the State of New York more than a year ago, which had been intended to show a possible limitation of the contagious stage of syphilis to three or four years. In the first place, he would oppose the statement made by Dr. Morrow that superficial secondary manifestations might continue to recur for months and years after the chronological completion of the secondary stage, with all the contagious property of that stage, and would maintain that syphilis, as usually understood, was clearly divided into two distinct stages—one, the active, including the so-called primary and secondary stages, in which a contagium had been proved, maintained always to be present, and equally shown to lose the contagious property within a few years. The exact time was not definitely fixed, but an approximation to it, he believed, might, by careful clinical observation, be more nearly arrived at than was generally accepted. The so-called tertiary stage of syphilis differed wholly from the active, or secondary, stage, in that it lacked the contagious element. This stage was always and of necessity but a sequel of the active stage, and these stages of the disease could not be transposed in any case, so that the tertiary should precede the secondary, any more than the fruit of a plant could be made to precede the flower. There were, it was true, so-called precocious syphilides, where an ulcerative eruption was presented, simulating, often closely, the so-called impetiginous tertiary eruption, developed in place of the typical papular eruption; when superficial ulcers, as large possibly as one's hand, might be present. But such eruptions yielded to mercury and not to iodide of potassium, and were never of the depth or gravity of true tertiary lesions. The late lesions were, again, clearly distinguished by the presence of the so called gummy material or its derivatives, while these had never yet been found associated with the typical secondary manifestations. It was not denied that lesions, especially those of the tongue and papular eruptions, might sometimes be difficult to place. Either in the active or the late stage, when proved to be contagious, they belonged to the former; when not contagious, to the latter. The speaker maintained that they had not been proved to be contagious after the third year from the date of infection; also that, wherever syphilis had been apparently communicated or had been alleged to have been communicated by a person whose syphilis dated back more than three or four years, if the facts of such case were submitted to thorough expert scrutiny they would be shown to have been erroneously interpreted, and the true source of the disease supposed to have been so communicated would be found in a lesion less than three years old. Dr. Morrow had stated that the direct paternal transmission of syphilis, without preliminary infection of the mother, could be classed among the most conclusively established facts of medical science.

In point of fact, such cases were not so common as one would be led to fear by Dr. Morrow's statistics. Fournier said (page 38 of Dr. Morrow's translation): "We have seen that children are born syphilitic through the agency of their father, their mother remaining exempt from all contamination." He then cited various authors who confirmed this, and then said: "I myself have observed *some* cases, although relatively few I confess." And in a note he said: "I find in my notes eight cases of this kind. *Even some of these I admit are wanting in the guarantee of authenticity which would be required in a matter so delicate and so disputed.*" He did not tell us how many had that guarantee.

The speaker then cited several authorities and adduced cases in proof of his statement that the infection of syphilis was through the mother alone, she having always been first contaminated; and that, when evidences of infection did not appear in the mother, it was simply because they were so slight as to have escaped observation. The arbitrary designation of a limit of three, or at most four, years as one beyond which it was perfectly safe for a syphilitic man to marry, with or without treatment and inspection of the actual existence of specific lesions, Dr. Morrow had stated was unwarranted by science or the teachings of experience. Inasmuch as the speaker had never designated such a limit as safe, or advised persons to marry under such circumstances, he could only account for this position, which was thus broadly condemned, by assuming that Dr. Morrow had misunderstood the object and scope of his paper. Its avowed object had been to discuss the possibility of arriving at some *definite limitation* of the contagious stage of syphilis through a careful analysis and discussion of facts which could be gathered bearing on this point. The speaker's conviction was strongly expressed, as, in view of his own experience and the other evidence he could reach, that this stage did not last more than three years. Marriage he did not advise, and did not now, until after a thorough treatment of two to three years, and an immunity from subsequent lesions for a year longer at least, and not then if any lesions of the tertiary stage were present.

Dr. R. W. Taylor thought the more important questions brought up in the paper and the discussion related to the treatment. If a patient with syphilis was put under treatment from the beginning of the secondary lesions, he believed that in ninety-nine out of one hundred cases the contagious element would disappear within two years, or two years and a half. But patients did not always undergo treatment from the beginning. He would be unwilling to be inoculated with the secretions from a papillary syphilide even after the fifth or sixth year. He did not believe that any law on the subject of the duration of the contagiousness of syphilis ever could be laid down with certainty. But we knew that the contagious principle did gradually wear itself out—faster in some patients than in others. He never gave consent to marriage to syphilitics under two years. If they got married in opposition to his advice, he then insisted that they should seek to prevent conception until the contagiousness of the syphilis had ceased. He knew religious people would say that was not right; but religious people often were not intelligent sanitarians, while it was the duty of every physician to be such.

Dr. E. B. Bronson said the contagious and hereditary power of syphilis was uncertain as to duration. He certainly was unwilling to believe that the disease should be regarded as extinct because its manifest virulence had ceased. The syphilitic were not infrequently seen to procreate healthy children, and afterward to beget those which had the disease, but there was gradual diminution in the virulence of the syphilitic poison. Regarding paternal influence in its transmission there was no question; but he maintained that the apparent freedom of the mother from the disease did not prove necessarily that it had not been transmitted through her, for, while she might not have lesions, she still had immunity from inoculation, which went to show that her system had been infected.

On the Supposed Virus of Chancroid.—Dr. F. R. Sturgis, in a paper on this subject, stated three propositions in the form of interrogatories: 1. What is the virus of chancroid? 2. Is not this virus really the result of an acute inflammation? 3. What are the sources of this virus? The term "virus" as applied to chancroid should be considered only one of convenience, to explain the existence of certain symptoms; he undertook to show that it was not in the true sense of the word a virus. Positive experiments were cited to show that chancroid did not depend upon a specific virus, but that it could be generated *de novo*, and by an acute inflammation. A chief source of the chancroid at the present day was contact with the secretions of another chancroid, but various irritative principles applied to sores would produce it, although chancroids of this nature possessed less power of auto-inoculation.

Dr. R. W. Taylor was glad to see that Dr. Sturgis had come to practically retract views which he had formerly expressed, and accept those which the late Dr. Bumstead had advocated in a paper before the International Medical Congress in 1876, and which the speaker had himself then arrived at by independent investigation.

Dr. Sturgis maintained that this paper went further than his article which had been quoted by Dr. Taylor. The possibilities of this subject were not new to him, and he had years ago discussed them with Dr. Bumstead.

Book Notices.

The Science and Art of Obstetrics. By Theophilus Parvin, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia, etc. Illustrated with Two Hundred and Fourteen Woodcuts and a Colored Plate. Philadelphia: Lea Brothers & Co., 1886. Pp. xvi–17 to 701.

The learned professor of obstetrics in the Jefferson Medical College is to be congratulated on having made a substantial addition to our list of text-books. The book bears evidence that the time which elapsed between its announcement and its publication was well spent. Within a moderate compass Dr. Parvin has given a judicious digest of the obstetrical knowledge of the present time; but not that alone, for his personal views are stated clearly and argumentatively, and they are sufficiently distinctive to make the book a material factor in the exposition of American obstetrics. Yet the author is not the partisan of any peculiar ideas, either doctrinal or practical, but displays an eclecticism and a conservatism that make the work not only creditable to him, but a safe and satisfactory guide for the student and the practitioner. In one respect it is of exceptional value—in the scholarly and careful way in which matters that throw light on the history of obstetrics are presented. We do not doubt that the book will prove very popular with the profession.

A System of Obstetric Medicine and Surgery, Theoretical and Clinical. For the Student and Practitioner. By Robert Barnes, M. D., Obstetric Physician to St. George's Hospital, etc.; and Fancourt Barnes, M. D., Physician to the Royal Maternity Charity and to the British Lying-in Hospital, etc. Illustrated with Two Hundred and Thirty-one Woodcuts. Philadelphia: Lea Brothers & Co., 1885. Pp. xxiv–33 to 884.

As is stated in the preface to this book, the senior author's well-known work on "Obstetric Operations" needed revision, and we think it was judicious to amplify it into a general text-book of midwifery, rather than that Dr. Robert Barnes's career as a practitioner and teacher should have no more complete record than is contained in the monograph, strikingly meritorious and original as it was. It was to be expected, however, that the mechanical aspect of obstetrics would be the best handled of all the subjects treated of in a text-book by these authors; and that expectation, it seems to us, is borne out by the book. But the obstetric art is largely mechanical, and a work which deals with it satisfactorily from that point of view is *ipso facto* one of sterling worth. We would not be understood as implying that the authors have failed to present their subject acceptably in other respects. The fact is, they have made a text-book which is in every way quite worthy to take a place by the side of the best treatises of the period.

BOOKS AND PAMPHLETS RECEIVED.

Anatomische Untersuchungen am menschlichen Rectum und eine neue Methode der Mastdarminspection. Von Walter J. Otis, M. D., aus Boston. Erster Theil. Die Sacculi des Rectums. Mit einem Holzschnitt im Texte und acht Tafeln (aus dem anatomischen Institut der Universität Leipzig). Leipzig: Veit & Co. Pp. 5 to 18.

Memorial of the New York Ladies' Health Protective Association to the Hon. Abram S. Hewitt, Mayor of New York, on the Subject of Street-cleaning.

L'année médicale. Neuvième année (1886). Résumé des progrès réalisés dans les sciences médicales. Publié sous la direction du Docteur Bourneville, Médecin de l'hôspice de Bicêtre, etc., avec la collaboration de: MM. Aigre, G. Ballet, Baratoux, R. Blanchard, F. Bottey, Brissaud, Œttinger, P. Budin, Capitan, Comby, L. Cruet, Delfaux, Dianoux, Gilles de la Tourette, Guinon, Isch-Wall, A. Josias, Kéraval, P. Loye, A. Malherbe, P. Marie, Mannoury, Maygrier, R. Picquet, Poirier, F. Raymond, A. Sevestre, Tavernier, R. Vigouroux. Paris: V. A. Delahaye et cie., 1887. Pp. vi–402.

Leçons sur la thérapeutique de la métrite. Par le Docteur L. Martineau, Médecin de l'hôpital de Loureine, etc. [Clinique gynécologique et syphiligraphique de l'hôpital de Loureine.] Paris: A. Lanier, 1887. Pp. 3 to 122.

A Theoretical and Practical Treatise on Astigmatism. By Swan M. Burnett, M. D., Professor of Ophthalmology and Otology in the University of Georgetown, etc. With Fifty-nine Diagrams and Illustrations. St. Louis: J. H. Chambers & Co., 1887. Pp. viii–245.

The Treatment of Hæmorrhoids, with General Rules as to the Examination of Rectal Diseases. By Charles B. Kelsey, M. D., etc. Detroit: George S. Davis, 1887. ["The Physician's Leisure Library."]

Treatment of Disease in Children, including the Outlines of Diagnosis and the Chief Pathological Differences between Children and Adults. By Angel Money, M. D., M. R. C. P., Assistant Physician to the Hospital for Sick Children, Great Ormond Street, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xiii–560. [Price, $3.]

Electricity and Life; or, the Electro-vital Theory of Nature. By Edward C. Towne, B. A., Cambridge, Mass.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By L. EMMETT HOLT, M. D.

Nervous Affections of Children, and their Treatment with Cod-liver Oil.—Andrews ("Practitioner") discusses the following propositions: 1. Much nerve power is expended in the process of growth, and heat disappears, assuming the form of vital energy. 2. The exhaustion which such expenditure occasions shows itself during the first few months of life by cerebral symptoms which may be easily mistaken for meningitis in its early stages; during dentition, laryngismus stridulus develops from the same cause, and in still older children a form of nervous asthma from exhaustion of the pneumogastric and respiratory tract, which is sometimes called "rickets of the chest." 3. The symptoms of nerve exhaustion arise especially during developmental periods. 4. Cod-liver oil best meets the indications, both as a prophylactic and as a curative agent, by raising the tone of the whole nervous system.

Early Tracheotomy in Diphtheria.—W. W. Cheyne ("Brit. Med. Jour.") approaches this subject from its pathological side. The micro-organism of this disease grows upon the mucous membrane of the throat and produces the membranous exudation, which spreads as the bacilli grow and extend. The disease is from first to last a local one, the general symptoms being produced by toxic ptomaines which are evolved by the bacillus in the throat. The whole object of treatment should be to destroy the bacilli *in situ*, and prevent their spreading, thus controlling the formation of false membrane. This is accomplished by the thorough use of antiseptics in the local treatment. After removing as much of the membrane as possible with a forceps, he applies to the denuded surface a sublimate solution (1 to 500) with a brush, very carefully, lest some of the fluid be swallowed. This is repeated every two hours, special attention being given to the margins of the diseased patches. In the interval a gargle of sublimate solution (1 to 2,000) is used. He argues that tracheotomy should be done in every case as soon as it is certain that the larynx has become implicated, chiefly with a view of preventing the downward spread of the disease. The object of the operation is to allow of systematic and thorough local treatment of the disease in the larynx. The results given of clinical experience with this method are so few that no conclusions can be drawn as to its practical working.

Diphtheria in the Children's Hospital at St. Petersburg.—Lunin ("Arch. f. Kinderh.") gives the results of 296 cases. The general mortality was 55·8 per cent. The cases were nearly all severe, the milder ones being in out-patients. The hospital cases were divided into two classes: the *fibrinous* form, with more or less extensive membranous exudation, and the *gangrenous*, or *septic*, form, in which there was often not much membrane, but extensive phlegmonous swelling of the tonsils, palate, cellular tissue, etc. The following were the results obtained:

Corrosive sublimate, applied in a 1-to-1,000 solution every two hours by means of a brush, and irrigation with a syringe with a 1-to-5,000 solution. Number of cases treated, 57; mortality, 30·2 per cent. in fibrinous cases, 93 per cent. in the gangrenous form.

Chloride of iron, used in two-drop doses of the tincture every half-hour, the throat being irrigated with a 3-per-cent. solution of boric acid—94 cases; mortality, 32 per cent. in the fibrinous, 78 per cent. in the gangrenous variety.

Quinoline, a 5-per-cent. solution in weak alcohol used locally with a brush, and a 2-per-cent. solution for irrigation—28 cases treated; mortality, 31 per cent. in the fibrinous, and 100 per cent. in the gangrenous variety.

Resorcin, a 10-per-cent. solution being used for painting, every two hours, and a 1-per-cent. solution for irrigation—29 cases treated; mortality, 20 per cent. in the fibrinous, and 89 per cent. in the gangrenous variety.

Bromine, a half-per-cent. solution in potassium bromide and water being used to paint the fauces with inhalations of a 1-to-300 solution of the same ingredients, being used half-hourly—33 cases treated; mortality, 47 per cent. in the fibrinous, and 83 per cent. in the gangrenous variety.

Oil of turpentine, used in ten-drop doses every two hours, boric acid being employed locally—23 cases treated; mortality, 8 per cent. in the fibrinous, and 81 per cent. in the gangrenous variety.

The conclusion drawn was that liquor ferri chloridi gave the best results in the septic or gangrenous cases, and turpentine in the fibrinous form. Of the entire number of cases, 95 per cent. were complicated with diphtheria of the air-passages, of which 72 per cent. proved fatal. Tracheotomy was done in 35 cases with 5 recoveries, although 1 patient died of cardiac paralysis after the tube was removed. The examination of the urine in 217 cases showed albumin in 161, or 74 per cent., of which 86 were fatal. Paralysis of the soft palate followed in 22 cases, and general paralysis in 1 case.

An Epidemic of Exudative Amygdalitis in Children.—Raven ("Practitioner") reports eighty cases as having occurred in an institution where the epidemic was clearly traced to bad drainage. There were no cases in the neighborhood. Sixty of the cases occurred during the months of August and September. The symptoms were extremely uniform—an initial high temperature, often as high as 105° F.; flushed face; and membranous patches upon one or both tonsils. The duration of the pyrexia was from five to seven days. Convalescence was frequently interrupted by a relapse (almost certainly due to reinfection). All the patients recovered. There were no paralytic sequelæ, no loss of reflexes, no albuminuria, and no glandular enlargements. In three cases rheumatism, with cardiac complications, occurred. It was evident that these cases were not diphtheria, but infectious amygdalitis with membranous deposit.

Acute Laryngitis in Children.—Foxwell ("Birmingham Med. Review") remarks that there are two forms of inflammation which may affect the larynx—the catarrhal and the membranous. The histological conditions found give no information regarding the ætiology. The membranous form has many varieties, but neither the presence nor the absence of membrane points to any particular cause. The form accompanying diphtheria may be purely catarrhal, while membranous laryngitis may come from many diseases. We can only differentiate the various acute inflammations of the larynx by specific germs. The causes in the order of their importance are cold, diphtheria, measles, scarlatina, typhoid fever, and traumatism. Special stress is laid upon the catarrhal laryngitis occurring with diphtheria, which may be as dangerous as the membranous form, or even more so, as it seems to have a greater tendency to extend downward to the bronchi. The author's routine treatment for acute laryngitis is as follows: An enema of castor-oil, one eighth of a grain of tartar emetic every ten minutes till free emesis occurs, and one grain of calomel every four hours. The child is placed in a steam-tent, and *hot* sponges are applied over the larynx. If these measures fail to control the inflammation, tracheotomy is called for in cases of the membranous variety, but the author has never seen a non-membranous case which required it.

Miscellany.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

The Meeting of the British Medical Association in Dublin in August.—There is every reason to anticipate that the annual meeting of the association, which will be held in Dublin, on Tuesday, Wednesday, Thursday, and Friday, August 2d, 3d, 4th, and 5th, will be one of the most successful which the association has ever known. Apart from the inducements to pay a holiday visit to Ireland which are held out by the association having its next meeting in Dublin, there are few places so well adapted as that city is as a meeting place for a large association. It is most accessible from all parts of England and Scotland by a splendid line of mail steamers, which make the passage from Holyhead to Kingstown twice daily in about three hours and a half. The London and Northwestern Railway Company also run excellent passenger express steamers twice daily. There is ample hotel accommodation, and good lodgings, of which a list has been specially prepared by Dr. Baxter, can be easily procured. In the city itself are numerous places of interest: the Phœnix Park, Kingstown, Bray, Killiney, and other picturesque environs are easily reached by car or train; and for longer excursions to places in the County Wicklow, Killarney, the Giant's Causeway, Donegal Highlands, etc., for which special arrangements have been made after the meeting, Dublin is the best starting-point.

Any one wishing to attend the International Medical Congress can take one of the above-mentioned excursions during the week after the Dublin meeting, and embark for New York from either Queenstown, Londonderry, or Belfast, according to the line of steamers he has selected.

The President-elect, Dr. Banks, will give an official dinner on the evening of Monday, August 1st. On the following morning, Tuesday, the Council of 1886–'87 will meet at 9.30 A. M. This will allow the first general meeting to be held at 11.30 A. M., and it is then hoped that most of the business part of the meeting will be got through on the first day. In the evening the President will give his address. The dignitaries both of the Church of Ireland and of the Roman Catholic Church, in Dublin, have expressed their desire to pay a compliment to the association and to the medical profession by having services in their cathedrals on the first day of the meeting. There will be a morning service at 10 A. M. in the Pro-Cathedral, Marlborough Street, at which the Reverend Martial Klein will preach. This gentleman is the Professor of Biology in University College, Dublin, and his selection by His Grace the Catholic Archbishop of Dublin to preach on the occasion of the visit of the British Medical Association is appropriate from the fact of his being a member of the profession, and at one time a surgeon in the French army, as well as a distinguished scientist.

The Most Reverend the Lord Bishop of Meath, Dr. Reichel, who is one of the most eloquent and learned of the Irish prelates, has kindly consented to preach the sermon at a special afternoon service in the ancient national cathedral of St. Patrick's.

Turning to the sectional work, the arrangement here also will be new. The sectional meetings will all be in the morning hours, from 10.30 A. M. to 2 P. M., and the addresses will be delivered in the afternoon, at 3 P. M. each day. By this arrangement more time than heretofore will be given to the sections; there will be no interruption in their work, and the afternoons will be free for the general meetings and addresses. The readers of addresses are men of wide reputation, namely, Dr. Gairdner, of Glasgow, in medicine, the Reverend Dr. Haughton, of Dublin, in public medicine, and Professor Hamilton, of Dublin, in surgery. They will be sure to attract large audiences.

The names of the officers of sections, the subjects selected for special discussion in each, and the names of the members who will introduce these subjects, and who have already promised papers, published in the official programme, will show that, as far as the scientific work of the meeting is concerned, it augurs well. In the Section of Medicine, a discussion on "Aphasia" will be introduced by Dr. H. C. Bastian, F. R. S., whose writings, on this subject especially, have won for him so high a place among neurologists. In the Section of Surgery, Mr. Mitchell Banks, Dr. Macewen, Mr. W. D. Spanton, and Mr. C. R. B. Keetley, will initiate a discussion on "The Radical Cure of Hernia," which can not fail to be of the highest interest to practical surgeons. A topic of hardly less practical importance to surgeons, "The Ætiology and Treatment of Convergent Concomitant Strabismus," will occupy the attention of the Section of Ophthalmology; it will be introduced by Mr. Simeon Snell. In the Section of Obstetrics, also, two thoroughly practical subjects will be discussed—namely, "The Prevention of Puerperal Fever," introduced by Dr. W. S. Playfair, and "Displacements of the Uterus," by Dr. Halliday Croom. Dr. Burney Yeo has promised to initiate a debate on "The Therapeutics of the Uric Acid Diathesis." A novel subject has been chosen by Dr. George H. Savage, who, in the Section on Psychology, will begin a discussion on "Nervous Disorders following the Use of Anæsthetics." Sir Charles Cameron will open the question of "The Best Method of Dealing with Insanitary Property occupied by the Artisan Class," in the Section of Public Medicine, and Dr. T. Donelly will raise a discussion on "The Influence of Modern Preventive Measures on the Prevalence of Infectious Diseases." In the remaining Section of Pathology, two subjects generally provocative of discussion have been chosen, and the two subsections will also be occupied with topics of much clinical importance.

A novel feature of the programme is the *conversazione* to be given by the medical officers of the army. The proposal has been warmly taken up, and the evening will not only be enjoyable in itself, but will be an ostensible proof of the good feeling which exists between the civil and military branches of the medical profession. As a large number of medical officers will attend this meeting, we would throw out the hope that many of them will contribute, from their special experiences, to its scientific proceedings.

We are glad to learn that several distinguished foreigners have signified their intention to attend the meeting and take part in the proceedings. Among those who have already done so we may mention Professors Unna, of Hamburg; Kocher, of Berne; Landolt, Apostoli, and Meyer, of Paris; Reymond, of Turin; Gerhardt and Uhthoff, of Berlin; and many others who have been invited by the Reception Committee are also expected. Of our own members, Sir Spencer Wells, Dr. Grainger Stewart, Sir Dyce Duckworth, Sir Thomas Crawford, K. C. B., Drs. Robert Barnes, Argyll Robertson, Matthews Duncan, Wheelhouse, Playfair, Priestley, Gairdner, Charlton Bastian, Priestley Smith, Berry, Barr, Brabazon, Crookshank, Halliday Croom, Lawson Tait, Elder, Frost, Mortimer Granville, Spender, Karl Grossman, Grigg, Hewetson, Hovell, Keay, David Little, Mason, Myrtle, Owen Lloyd, Snell, Savage, Vose Solomon, etc., are expected.

Every one almost has heard of the beauties of the County Wicklow, and a glance at the brief sketch of the excursions which have been arranged will prove that every means will be taken to show to many of the visitors some of the most charming portions of that county. There will be two excursions to Wicklow, in one of which the party will be entertained by the Earl of Carysfort. The excursion to the Boyne and the sepulchral tumuli of Dowth will also be a most interesting one; while for lovers of marine scenery and zoölogy the excursion in Dublin Bay will be charming.—*British Medical Journal.*

The Treatment of Tapeworm.—In reply to a correspondent of the "Lancet," several communications are published in that journal, including one from Dr. F. A. A. Smith, of Cheltenham, who says that during his stay in South Africa he treated many cases, his own included, and all with success. The great point in the treatment of tapeworm, he says, is to expose the head, which is attached to the intestine by its hooklets. So long as the head is covered with fæces no medicine will do much good. His treatment is as follows: The day before giving the worm medicine he allows no food of any kind, except plain beef-tea, or other very thin soup, and very little even of these. The first morning he gives one drachm of compound jalap powder, which generally operates three or four times during the day, and effectually clears out the bowels, bringing away at the same time large portions of the worm. The patient, of course, keeps quiet in the house. On the second morning, on an empty stomach, he gives a draught consisting of from two to three drachms of oil of turpentine and one drachm of oil of male fern in sweetened emulsion. After an hour or so he gives a dose of castor-oil. It will not be long before the whole of the worm with its head will have passed, which will be found on proper examination of the stools. The patient can then take his usual diet, and the following day will be well. He has never known this treatment fail. The doses, of course, are intended for adults. The frequent failure of the oil of male fern as an anthelminthic is, he believes, attributable to the smallness of the dose exhibited, less than a drachm for an adult being useless. The writer believes every native in South Africa to be infected with one or two tapeworms.

The Medical School of Maine.—The commencement exercises of Bowdoin College were held at Brunswick, on Thursday, June 23d. The honorary degree of LL. D. was conferred on Dr. Fordyce Barker, a graduate of the college in the class of 1841, and twenty candidates received the degree in medicine. Dr. H. H. Hunt, of Portland, was appointed professor of physiology.

The New York Post-graduate Medical School and Hospital.—Dr. George B. Fowler has been elected professor of clinical medicine and medical chemistry.

Itching of the Vulva.—A contributor to the "Union médicale" credits M. P. Ménière with the following formula:

Zinc oxide	6 parts;
Potassium bromide	10 "
Extract of Indian hemp	2 "
Glycerite of starch	30 "

The application should be preceded by the use of lotions of very hot linden-flower water (distilled from the flowers of the *Tilia europæa*). When there is acne of the vulva, black soft soap should be applied for half an hour at a time, morning and evening, followed by bathing with a strong infusion of black tea as hot as can be borne.

A Correction.—In Dr. Gray's article on "Localization in the Cortex Cerebri," published in our issue for June 18th, a reference to Fig. 3 on page 675, first column, in the eighth, twenty-fourth, and thirty-seventh lines, was given as "A," when it should have been A1.

The New Hampshire Medical Society.—At the annual meeting, held at Concord on Wednesday, June 22d, Dr. S. W. Roberts, of Wakefield, was elected president; Dr. S. C. Whittier, of Portsmouth, vice-president; Dr. D. S. Adams, of Manchester, treasurer; Dr. G. P. Conn, of Concord, secretary; and Dr. C. R. Walker, of Concord, Dr. G. D. Towne, of Manchester, and Dr. J. R. Kimball, of Suncook, members of the executive committee.

The Medical Society of the State of West Virginia will hold its twentieth annual meeting at White Sulphur Springs on Wednesday, Thursday, and Friday, the 13th, 14th, and 15th inst. The secretary's circular announces some of the papers to be read, and states that others are doubtless in course of preparation. The list includes the following: "The Therapeutical Value of the Water of the Greenbrier, W. Va., White Sulphur Springs," by Dr. T. R. Evans, of Mount Carbon; "Public Health," by Dr. T. A. Harris, of Parkersburg; "Remarks on Five Hundred Refraction Cases," by Dr. J. L. Dickey, of Wheeling; "Hypnotics," by Dr. C. C. Hersman, of Weston; "The Prognosis of Heart Murmurs," by Dr. F. Donaldson, Jr., of Baltimore; "Specialists in Medicine," by Dr. J. D. Myers, of Huntington; "The Use of the Forceps in Midwifery," by Dr. C. F. Ulrich, of Wheeling; "Medicine as taught at the School of Salerno in the Eleventh Century," by Dr. J. T. Cotton, of Charleston; "Glaucoma," by Dr. E. H. Fravell, of Poca; and "A Few of the Important Facts Gleaned by a Six Weeks' Stay in New York," by Dr. T. M. Hood, of Cassville. A paper by Dr. R. S. Henry, of Charleston, the title of which is not stated, is also announced. The reports of various standing committees will be read by their chairmen. It is expected that the meeting will be unusually successful. The season at the springs will be about at its height, and the manager of the hotel has offered to entertain the members free of charge, and their families and friends at reduced rates.

The Florida State Medical Association has appointed Dr. A. H. Glennan, of the Marine Hospital Service, a delegate to the International Medical Congress.

The Health of Boston.—During the week ending Saturday, June 25th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 17 cases and 7 deaths; scarlet fever, 15 cases and 2 deaths; typhoid fever, 5 cases; measles, 104 cases and 7 deaths. There were also 29 deaths from consumption, 13 from pneumonia, 10 from heart disease, 3 from bronchitis, 6 from marasmus, and 1 from whooping-cough. The total number of deaths was 152 against 156 in the corresponding week last year.

The International Medical Congress.—A correspondent of the "Union médicale" states that, at a meeting of the Berlin Medical Society, held May 18th, the question came up as to whether the society would send official representatives to the Washington meeting of the Congress, as it had been invited to do, and that the proposition was negatived. The writer adds that the Berlin society has sent out but one official delegation since its foundation, and that was to the Copenhagen meeting of the Congress. That delegation was charged with the mission of inviting the Congress to hold its next meeting in Berlin, but, thanks to a coalition of French and American physicians, the writer continues, the motion was not taken into consideration. The remembrance of this fact, he avers, had much to do with the action taken by the society in the matter of sending representatives to Washington.

The Illinois Medical Practice Act.—The following is the full text of the new act, which went into effect on the 1st inst.:

Section 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*, That no person shall practice medicine in any of its departments in this State unless such person possesses the qualifications required by this act. If a graduate in medicine, he shall present his diploma to the State Board of Health for verification as to its genuineness. If the diploma is found genuine, and from a legally chartered medical institution in good standing, and if the person named therein be the person claiming and presenting the same, the State Board of Health shall issue its certificate to that effect signed by all of the members thereof, and such certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State. If not a graduate, the person practicing medicine in this State shall present himself before said board and submit himself to such examination as the board may require, and if the examination be satisfactory to the board, the said board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

§ 2. The State Board of Health shall organize within three months after the passage of this act, it shall procure a seal, and shall receive, through its secretary, applications for certificates and examinations; the president and secretary shall have authority to administer oaths, and the board to take testimony in all matters relating to its duties; it shall issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing, as may be determined by the board; it shall prepare three forms of certificates, one for persons in possession of such diplomas or licenses, the second for candidates examined and favorably passed on by the board, and a third for persons to whom certificates may be issued as hereinafter provided in section 12 of this act; it shall furnish to the county clerks of the several counties a list of all persons receiving certificates. In selecting places to hold its meetings, it shall, as far as is reasonable, accommodate applicants residing in different sections of the State, and due notice shall be published of all of its meetings for examination. Certificates shall be signed by all the members of the board, and the secretary of the board shall receive from the applicant a fee of five (5) dollars for each certificate issued to such graduate or licentiate. Graduates or licentiates in midwifery to pay the sum of two (2) dollars for each certificate. All such fees for certificates shall be paid by the secretary into the treasury of the board.

§ 3. The verification of the diploma shall consist in the affidavit of the holder and applicant that he is the lawful possessor of the same, and that he is the person therein named. Such affidavit may be taken before any person authorized to administer oaths, and the same shall be attested under the hand and official seal of such officer, if he have a seal; and any person swearing falsely shall be deemed guilty of perjury, and punished accordingly. Graduates may present their diplomas and affidavits as provided in this act, by letter or by proxy, and the State Board of Health shall issue its certificate the same as though the owner of the diploma was present.

§ 4. All examinations of persons not graduates or licentiates shall be made directly by the board, and the certificates given by the board shall authorize the possessor to practice medicine and surgery in the State of Illinois.

§ 5. Every person holding a certificate from the State Board of Health shall have it recorded in the office of the clerk of the county in which he resides, within three months from its date, and the date of recording shall be indorsed thereon. Until such certificate is recorded as herein provided the holder thereof shall not exercise any of the rights or privileges conferred therein to practice medicine. Any person removing to another county to practice shall record the certificate in like manner, in the county to which he removes, and the holder of the certificate shall pay to the county clerk the usual fees for making the record.

§ 6. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of the issue of the certificate. If the certificate be based on a diploma or license, he shall record the name of the medical institution conferring it, and the date when conferred. The register of the county clerk shall be open to public inspection during business hours.

§ 7. The fees for the examination of non-graduates shall be as follows: Twenty (20) dollars for an examination in medicines and surgery; ten (10) dollars for an examination in midwifery only; and said fees shall be paid into the treasury of the board, and shall be paid by each applicant, whether a certificate is issued or not. Upon successfully passing the examination the certificate of the board shall be issued to the applicant without further charge.

§ 8. Examinations may be made in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

§ 9. The State Board of Health may refuse to issue the certificates provided for in section 2 to individuals guilty of unprofessional or dishonorable conduct, and it may revoke such certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the Governor, who may affirm or overrule the decision of the board, and this decision shall be final.

§ 10. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall treat, operate on, or prescribe for any physical ailment of another. But nothing in this act shall be construed to prohibit service in cases of emergency, or the domestic administration of family remedies. And this act shall not apply to commissioned surgeons of the United States Army, Navy, or Marine Hospital Service in the discharge of their official duties.

§ 11. Any itinerant vendor of any drug, nostrum, ointment, or appliance of any kind, intended for the treatment of disease or injury, or who shall, by writing or printing or any other method, profess to cure or treat disease or deformity, by any drug, nostrum, manipulation, or other expedient, shall pay a license of one hundred (100) dollars per month into the treasury of the board, to be collected by the State Board of Health, in the name of the People of the State of Illinois for the use of said Board of Health. And it shall be lawful for the State Board of Health to issue such license on application made to the State Board of Health, such license to be signed by the President of the Board, and attested by the secretary of the board, with the seal of the board. Any such itinerant vendor who shall vend or sell any such drug, nostrum, ointment, or appliance without having a license so to do, shall, if found guilty, be fined in any sum not less than one hundred dollars, and not exceeding two hundred dollars for each offense, to be recovered in an action of debt before any court of competent jurisdiction. But such board may for sufficient cause refuse such license.

§ 12. Any person practicing medicine or surgery in the State without the certificate issued by this board in compliance with the provisions of this act, shall for each and every instance of such practice forfeit and pay to the people of the State of Illinois for the use of the said State Board of Health the sum of one hundred (100) dollars for the first offense, and two hundred (200) dollars for each subsequent offense, the same to be recovered in an action of debt before any court of competent jurisdiction, and any person filing or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and, upon conviction, shall be subject to such fine and imprisonment as are made and provided by the statutes of the State for the crime of forgery: *Provided*, that all persons who have been practicing medicine continuously for ten years within this State prior to the taking effect of the act to which this is an amendment, and who have not under said original act obtained a certificate from said Board of Health to practice medicine in this State, shall, upon proper application to said Board of Health, receive such certificate, unless it shall be ascertained and determined by said Board of Health that the person so applying for a certificate is of immoral character, or guilty of unprofessional or dishonorable conduct, in which case said Board of Health may reject such application: *And, provided*, that such application for a certificate shall be made within six months after the taking effect of this act, and all persons holding a certificate on account of ten years' practice shall be subject to all the requirements and discipline of this act, and the act to which this is an amendment, in regard to their future conduct in the practice of medicine the same as all other persons holding certificates, and all persons not having applied for or received such certificate within six months after the taking effect of this act, and all persons whose applications have for the causes herein named been rejected or certificates revoked, shall, if they shall practice medicine, be deemed guilty of practicing in violation of law, and shall suffer the penalties herein provided.

§ 13. Upon conviction of either of the offenses mentioned in this act, the court shall, as part of the judgment, order that the defendant be committed to the common jail of the county until the fine and costs are paid, and upon failure to pay the same immediately the defendant shall be committed under said order. *Provided*, that either party may appeal in the same time and manner as appeals may be taken in other cases, except that where an appeal is prayed in behalf of the people no appeal bond shall be required to be filed, whether the appeal be from a justice of the peace, or from the county or circuit court, or from the appellate court. But it shall be sufficient, in behalf of the people of the State of Illinois, for the use of the State Board of Health, to pray an appeal, and thereupon appeal may be had without bond or security.

§ 14. All acts and parts of acts inconsistent or in conflict with this act are hereby repealed.

M. Pasteur's Treatment of Rabies.—The London correspondent of the "Therapeutic Gazette" says: "With respect to possible danger from inoculation, I must refer to a fatal case of Landry's paralysis, or acute ascending spinal paralysis, which occurred here in one of Pasteur's patients, and caused considerable discussion at the time. The patient in question, who was an attendant at the Brown Institution for the Study of the Diseases of Animals, in London, had been bitten by a rabid cat, in which Mr. Horsley, the professor superintendent, was studying rabies. The man had been at once sent to M. Pasteur, and treated with *intensive* injections, but he died with perplexing spinal symptoms immediately on his return from Paris. Whatever may have been the exact nature of his illness, there was a general impression among the profession here that the patient died from the effects of the inoculation, as a few other cases appear unfortunately to have done. However, risk will probably disappear under the milder injections now used."

Referring to the prospective report by the committee appointed by the British Government to investigate the Pasteur system, the writer adds: "It is most sincerely to be hoped that the favorable report which I expect from the committee may bear the test of time. Were it only for Pasteur's sake, one would rejoice to see the value of his method accepted. From first to last he has been a pattern of generous, open, kindly dealing with regard to it, receiving strangers from every country with the greatest possible attention and consideration, laboriously treating half a hundred patients every morning, and entirely declining to accept any remuneration or other return than thanks for his trouble, even from those who were in the best possible position to pay for his services."

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 23d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 4th corresponded to an annual rate of 19·5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 12·8, and the highest in Manchester, viz., 30·5 in a thousand.

London.—One thousand four hundred and forty-seven deaths were registered during the week ending June 4th, including 109 from measles, 15 from scarlet fever, 15 from diphtheria, 75 from whooping-cough, 5 from enteric fever, 12 from diarrhœa and dysentery, and 1 from choleraic diarrhœa. There were 264 deaths from diseases of the respiratory organs. Different forms of violence caused 54 deaths, and 7 suicides were registered. The deaths from all causes corresponded to an annual rate of 17·9 in a thousand. In greater London, 1,774 deaths were registered, corresponding to an annual rate of 17·1 in a thousand of the population. In the "outer ring" 33 deaths from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 4th, in the sixteen principal town districts of Ireland, was 22 in a thousand of the population. The lowest rate was recorded in Dundalk, viz., 13·1, and the highest in Lurgan, viz., 35·9 in a thousand.

Dublin.—One hundred and sixty-three deaths were registered during the week ending June 4th, including 10 from measles, 3 from whooping-cough, 2 from enteric fever, 4 from scarlet fever, and 1 from erysipelas. Diseases of the respiratory organs caused 20 deaths. In twenty-four instances the causes of death were uncertified, and 3 accidental deaths were registered. The deaths from all causes corresponded to an annual rate of 21·4 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 4th corresponded to an annual rate of 19·8 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 15·1, and the highest in Leith, viz., 22·3 in a thousand. The aggregate number of deaths registered from all causes was 495, including 4 from measles, 5 from scarlet fever, 32 from whooping-cough, and 4 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending May 28th, corresponded to an annual rate of 22. The lowest rate was recorded in Charlottenburg, viz., 11·3, and the highest in München, viz., 37·8.

Fayal.—The United States consul, under date of May 14th, reports that "small-pox has manifested itself in this place, brought, it is said, from the island of Terceira, where it exists, as it does also at St. Michaels, I am informed. The disease is limited thus far to seven cases at Fayal, and efforts are being made to control it."

Marseilles.—Eight hundred and seven deaths were registered during the month of May, 1887, including one from small-pox, 30 from enteric fever, 37 from diphtheria, and 50 from measles.

Nice.—One hundred and nine deaths were registered during the fifteen days ending May 15th, including six from small-pox.

Reims.—Two cases of small-pox and 6 of scarlet fever were registered during the week ending June 4th.

Amsterdam.—Two cases of small-pox, 2 of scarlet fever, and 2 of diphtheria were registered during the week ending June 4th.

Baranquilla.—The United States consul, under date of May 26th, forwards a copy from the "Star and Herald," of Panama, under date of May 19th, relative to the inoculation for the prevention of yellow fever, as follows: "A letter from Cucuta, Santander, dated April 14th, says: 'On the 6th I sent you a telegraphic message containing important information. I told you how successful inoculation is proving here for yellow fever. About 10 per cent. of the inoculated patients are attacked by the disease, but none of them die. The heat is intense; ranges between 34° and 38° centigrade.' Cucuta is not far from the place where yellow fever seems to have its headquarters."

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	May 7.	433,219	165	28	....	....	....	....	....	....
Havana	June 9.	208,000	152	..	25	2	....	6	....	....
Warsaw	May 28.	439,174	187	..	.. ..	8	....	....	....	....
Paris	June 4.	2,260,045	1,057	..	....	13	....	20	6	30
Bordeaux	June 4.	240,582	106	..	....	...	....	1	....	....
Havre	June 4.	112,074	45	..	....	1	....	4	...	....
Belfast	June 4.	224,422	98	..	....	....	1	2	1	....
Glasgow	June 4.	545,678	205	..	....	....	....	....	1	2
Copenhagen	May 24.	290,000	146	..	....	.. .	....	1	....	6
Leipsic	June 4.	170,000	90	.	....	....	....	....	1	5
Bremen	May 28.	119,000	45	..	....	....	. ..	1	....	....
Mayence	May 21.	65,701	31	..	....	....	....	....	....	2
Munich	May 28.	269,000	198	..	....	....	....	....	1	4
Palermo	June 4.	250,000	91	..	....	....	....	....	4	3
Genoa	May 28.	179,368	123	..	....	4	....	5	....	1
St. Vincent	May 15.	4,600	...	..	....	1	....	....	...	....

United States.

Key West—Yellow Fever.—Thirty-one cases and 11 deaths have been reported up to June 18th.

Platt's Chlorides.—Mr. Platt writes that through the recent offer made by him in our advertising pages to send a complimentary sample of his chlorides to any physician still unacquainted with it, he has received many hundreds of requests which he has complied with with pleasure. But there are a few, he adds, that will be disappointed, by reason of their own carelessness or thoughtlessness in writing, as it was impossible to decipher the name or the P. O. address, or the latter was not fully given. For instance, one physician gave his P. O. address as simply Harper's Ferry, not naming the State. There being a Harper's Ferry in Iowa, one in Kentucky, and another in West Virginia, it was impossible to tell where to send the sample, as in this instance the physician's name was not in any of our directories, and the post-mark was entirely obliterated. Mr. Platt renews his offer to send samples (expressage prepaid) for a few weeks yet, and would kindly ask those requesting them to inclose their card, or to write on a letter-head giving the name and address in print.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of May, the whole number of deaths for the month was 475, including 1 from cholera morbus, 2 from cholera infantum, 24 from croup and diphtheria, 3 from cerebro-spinal meningitis, 4 from diarrhœa, 1 from erysipelas, 11 from typhoid fever, 1 from typhus, 1 from measles, 3 from whooping-cough, 2 from pyæmia, and 1 from septicæmia.

THERAPEUTICAL NOTES.

A Galactagogue and an Antigalactic.—Dr. Prota-Giurleo ("Morgagni"; "Med.-chir. Rndsch."; "Arch. f. Kndrhlk.") states that, fifteen years ago, he received from Mexico some of the flowers of the *Ditana digitifolia* (*Rhamnus alaternus*), a supposed stimulant of the salivary and cutaneous secretions. These effects he has not observed, but the use of an infusion of the flowers in the case of a nursing woman caused a decided increase of the secretion of milk, which disappeared when the use of the drug was suspended, and was repeated on its resumption. The remedy, he says, appears not only to increase the secretion when it has once been established, but also to provoke its appearance. The *Ligustrum vulgare* has the effect of checking the flow of milk. The best preparation of the latter plant is an infusion of 45 grains of the leaves in 4 ounces of water, to be taken in two doses, two days apart.

The Dietetic Treatment of Obesity.—A contributor to the "Union médicale" credits M. Dujardin-Beaumetz with the following dietary for the reduction of obesity: *Breakfast* at 8 o'clock.—Two ounces of cold meat, an ounce of bread, eight ounces of weak tea without sugar. *Luncheon* at noon.—Two ounces of bread, four ounces of meat or stew or two eggs, four ounces of fresh vegetables, half an ounce of cheese, fruit *ad libitum*. *Dinner* at 7 o'clock.—No soup, two ounces of bread, four ounces of meat or stew, four ounces of fresh vegetables, salad, half an ounce of cheese, fruit *ad libitum*. In conjunction with this course, purgatives should be taken rather frequently, either mineral waters, pills, or powders, and the subject should take exercise in proportion to his strength, and employ massage.

ANSWERS TO CORRESPONDENTS.

No. 1.—It is true that certain societies have appointed delegates to the Ninth International Medical Congress, but one need not be a delegate to attend the meeting and take full part in its proceedings. All you have to do is to register in due form and pay the fee. We make this statement on the assumption that the rules heretofore in force will be followed at the Washington meeting.

No. 2.—The society takes its name from the Italian city in which it was organized, several years ago, by a number of young American physicians who happened to be thrown together there at the time. Our impression is that its scope is largely, if not wholly, social; it certainly has nothing to do with the organization that you mention.

THE NEW YORK MEDICAL JOURNAL, July 9, 1887.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.*

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I. Anatomy.

Notwithstanding the centuries that have elapsed since the reputed discovery of the recurrent laryngeal nerves by Galen, it is doubtful if there be another pair of nerves in the body which have given rise to so many diverse and fanciful theories to account for the anatomical peculiarity of their course or to elucidate their physiological functions. At the present day our knowledge of the anatomy of these nerves is, for the most part, complete and exact. The reason why they are not given off by the pneumogastrics at a point opposite the larynx so as to reach that organ by the shortest route, instead of branching from the pneumogastrics low down in the neck and running a complicated and recurrent course to the larynx, is now clearly understood. Yet Magendie,† in his lectures on the nervous system, delivered at the Collège de France at so recent a date as 1836, asserted that this was a problem which anatomists were unable to solve. But several years prior to the date of Magendie's lectures two articles had appeared in a Scotch journal which, had they come under his notice, would have given him a clew to the explanation of the matter.

Stedman, in 1823, in a paper entitled "A Singular Distribution of some of the Nerves and Arteries in the Neck and the Top of the Thorax,"‡ gives a description and a drawing of his dissection of an aged female in whom he found that the right recurrent laryngeal nerve was absent. There were, however, nerves given off from the trunk of the pneumogastric, about the middle of the neck, which went direct to the larynx. He also found, in the same subject, an irregularity in the origin and course of the right subclavian artery. It arose from the arch of the aorta behind and a little to the left side of the left subclavian artery, and, forming an arch, pierced between the œsophagus and vertebral column in the region of the first vertebra of the back, and then passed over the first rib on the right side. Stedman was the first to cite an example of the connection between an irregular origin of the right subclavian artery and right recurrent laryngeal nerve—a connection which we now know is constant; but he dismissed the subject with the comment that the nerve, in his case, which went direct to the larynx from the pneumogastric probably performed the same functions as the recurrent, and that nature seemed to have been forced to have recourse to this arrangement from the singular situation of the subclavian. Three years after the appearance of Stedman's paper, Hart (1826) reported in the same journal # "A Case of Irregular Origin and Course of the Right Subclavian Artery and Right Inferior Laryngeal Nerve." The artery arose from the aorta direct, and the nerve, instead of being recurrent, went straight from the pneumogastric to the larynx. Hart speculates upon the reason why the nerve in this instance should have been straight and short, and, although his views are not strictly in accord with the teaching of modern embryologists, they show that he was aware that the secret of the circuitous course of the inferior laryngeal nerves was to be sought in the natural law of embryonic development. He says: "In the earlier periods of the existence of the fœtus the rudiment of the head appears as a small projection from the upper and anterior part of the trunk, the neck not being yet developed. The larynx at this time is placed behind the ascending portion of the arch of the aorta, while the brain, as it then exists, is situated so low as to rest on the thymus gland and front of that vessel. Hence it is that the inferior laryngeal nerves pass back to the larynx, separated by the ascending aorta, the left going round its arch, while the right goes below the *arteria innominata*. As gestation advances, the head becomes more distinct, and the neck begins to be formed after the second month, which, as it lengthens, has the effect of moving the brain upward to a greater distance, and of drawing out the larynx from the chest, in accommodation to which the nerves of the par vagum and their recurrents become elongated, and hence the circuitous route the latter are found to take afterward, forming loops in which the aorta and right subclavian artery are, as it were, suspended. . . . Had not the great blood-vessels been originally thus interposed between the brain and larynx, the inferior laryngeal nerves would not have been entangled by them, and we should find them in the adult taking the nearest route to their destination."

These early papers upon this subject are most interesting, and show that their authors were careful observers. They pointed out the right path, which, however, was not followed by all subsequent writers who expressed themselves on the question.

Swan, for instance, entertained certain theories in regard to the influence which the blood-vessels had upon the nervous system, and in "An Essay on the Connection between the Action of the Heart and Arteries and the Functions of the Nervous System," London, 1829, p. 50, he applied his views in a very curious way to explain the recurrent course of the inferior laryngeal nerves. After speaking of their encompassing the subclavian artery on the right side and the arch of the aorta on the left, and remarking that it was very singular that neither of the carotids was included, he says: "I conceive this disposition was intended for producing a more extensive sympathy between the arteries of those parts of the body which are subjected to be excited by exercise, and the glottis; for when the action and distension of the arteries are increased by exercise, the recurrent nerves become stimulated, and consequently the muscles of the glottis, the opening of which thus becomes widened, so as to admit a greater and more free supply of air into the lungs. It may be supposed that any other disposition would have sufficed, so long as the parts were properly supplied with nerves, and a case is related by Dr. Stedman where the recurrent was wanting on the right side, and its place was supplied by numerous branches of the par vagum; but in this instance 'the right subclavian artery rose from the arch of the aorta behind and a little to the left side of the left subclavian, and, forming an arch, pierced between the œsophagus and vertebral column in the region of the first vertebra of the back, and then passed over the first rib on the right side.' It must be remarked that the right subclavian was already under the influence of the left recurrent, and therefore the usual distribution was not necessary on the right side. The same unusual distribution I have also observed in a rabbit, which was very healthy, but I never saw it in exercise, and therefore can not determine whether its respiration was affected during that state. It is a curious circumstance that the recurrents do not always include the carotids; but it seldom happens that the action of these arteries is much increased, except by the exertions of the voice, as in singing, etc., and therefore, if they had been included, the delicate and complicated actions of the glottis, which are produced during these processes, might have been too much interfered with, and I believe a compensation is made for this omission by the connection of the pharyngeal plexus with the superficial cardiac nerve. . . . The subclavian artery on the right side and the aorta on the left are almost encircled by the par vagum and its recurrent branches. This distribution, no doubt, connects the actions of these arteries with those of the glottis."

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* Read before the American Laryngological Association at its ninth annual congress.

† "Lancet," July 1, 1837, p. 503.

‡ "Edin. Med. and Surg. Jour.," xix, 1823, p. 564.

# "Edin. Med. and Surg. Jour.," April, 1826, p. 286.

Hilton (1837), to whom we are indebted for an admirable paper * describing the distribution of the recurrent nerves, states in a foot-note that he had seen a subject in his dissecting-room in which the right subclavian artery came off from the posterior part and left side of the transverse portion of the aorta. In this case, he continues, "the right recurrent nerve did not curve round the artery, but was detached from the pneumogastric at an acute angle with the descending part of the nerve, about opposite the fifth cervical vertebra." We find, moreover, in the same writer's well-known "Lectures on Rest and Pain," † the statement that he had seen examples in which the recurrent did not wind around the arch of the aorta or the subclavian artery, yet the course of the nerve was, notwithstanding, equally recurrent, thus clearly indicating that it had no necessary relation with the subclavian artery or the aorta. He then sets forth the following singular theory to explain the course of these nerves: "The nervous influence, whatever it may be, which travels by these recurrent nerves, goes from below upward. And I think it will be apparent why this nerve takes its course from below upward. It is an essential thing, to my mind, that the muscles which are acting upon the air as it escapes outward from the lungs so as to make the voice, should be acting from within outward—that is, from the lower part of the larynx to the upper. It is quite obvious that if they acted in the other way we should all be ventriloquists, talking inwardly to ourselves, as it were, and having no external voice; and it is for the purpose of determining the direction of influence from within outward that we find this nerve pursuing this singularly recurrent course."

Meckel * says the recurrent nerve is sometimes double, and, though rare, when this occurs it is always on the right side. He considers it probable "that the recurrent nerve results from the plexiform division of the trunk of the pneumogastric, and that its existence is connected with the primitive shortness of the neck, since the larynx is much nearer its origin in the early periods of life than subsequently. This hypothesis would explain its arrangement in the same manner as the high origin and long course of the spermatic vessels."

Daremberg, † in speaking of the recurrent nerve twisting round the subclavian artery on the right side and the arch of the aorta on the left, says: "Que la nature a disposeés comme deux bornes qui les fixent dans la carrière qu'ils ont à fournir avant de se répandre dans les muscles abaisseurs du larynx, qu'ils font mouvoir comme avec une main."

If we wish to obtain a clear idea of the reason why the recurrent nerves recur, we must leave this speculative ground and begin at the beginning of the development of the embryo. These remarkable nerves exist at a very early period of fœtal life. At a certain stage of embryonic development they have, indeed, a transverse direction, and proceed direct from the pneumogastrics to their destination, and their recurrent course is determined later solely through developmental changes in the branchial apparatus of the embryo, and to the descent of the heart into the thorax. We will briefly review these changes: In the cervical region are developed the five pairs of aortic arches—a transitory fœtal apparatus in the higher vertebrates. Of the five pairs of arches, but two are permanent at birth, namely, the fourth arch on the left side, which is represented by the arch of the aorta, and the corresponding arch on the right side, which has become the right subclavian artery. The recurrent nerves originally passed under the fifth pair of aortic arches; but as the *ductus arteriosus*—the fifth arch on the left side—is obliterated after birth, it follows that the left recurrent nerve is hooked under the first permanent arch above it, namely, the fourth, which has become the arch of the aorta; while on the right side the fifth aortic arch disappears entirely, and the right recurrent consequently passes under the fourth aortic arch, which persists as the right subclavian artery.

The long course of the recurrents, like the elongation of the carotids and other anatomical features of the cervical region, is brought about by the change of position which the heart and great vessels undergo during embryonic life, and which we may best describe by borrowing Huxley's words: ‡ "At first the heart of a mammal lies under the middle of the head, immediately behind the first branchial arches, in which the first pair of aortic arches ascend. As the other pairs of aortic arches are developed the heart moves backward, but the fourth pair of branchial arches, by the modification of one of which the persistent aorta is formed, lies, at first, no farther back than the occipital region of the skull, to which the fourth pair of branchial arches belongs. As the two pairs of cornua of the hyoid belong to the second and the third branchial arches, the larynx is probably developed within the region of the fourth and fifth branchial arches; hence the branches of the pneumogastric, with which it is supplied, must, originally, pass directly to their destination. But, as development proceeds, the aortic arches and the heart become altogether detached from the branchial arches and move back, until at length they are lodged deep in the thorax. Hence the elongation of the carotid arteries; hence also, as the larynx remains relatively stationary, the singular course in the adult of that branch of the pneumogastric, the recurrent laryngeal, which primitively passed to the laryngeal region behind the fourth branchial arch, and consequently becomes drawn out into a long loop, the middle of it being, as it were, pulled back by the retrogression of the aortie arch into the thorax."

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* "Guy's Hosp. Reports," vol. ii, 1837, p. 514.

† Second edition, London, 1877, p. 217.

* "Manual of Anatomy." Translated by Doane, 1832.

† "Exposition des connaissances de Galien," etc., Thèse, Paris, 1841, p. 57.

‡ "A Manual of the Anatomy of Vertebrated Animals," London, 1871. We take the liberty of substituting the word "branchial" for "visceral."

The proof that the course of the recurrent nerves is a question of development is found in the fact that when, from any cause operating in early fœtal life, irregularities of the arch of the aorta or in the origin of its primary branches exist, the recurrent nerves have always in such instances an anomalous origin and course. There are several recorded cases of this inter-relation of these anomalies. We have already mentioned Stedman's paper, in which he described, for the first time, a case of irregular origin of the right subclavian artery associated with absence of the right recurrent nerve. In this case, undoubtedly, the fourth right aortic arch disappeared very early, and, the right subclavian arising from the descending portion of the aorta, there was nothing to carry the right recurrent down, and it consequently ran directly to the larynx. Through the kindness of Professor Dwight we have had an opportunity of observing a similar case in the dissecting-room of the Harvard Medical School. Hérard * in 1846 showed a specimen at the Anatomical Society of Paris, in which the right recurrent was given off from the pneumogastric opposite the cricoid cartilage, and he suggested that we ought to be prudent in denying the existence of the recurrent if we did not find it in its proper place. The left recurrent was normal. He makes no mention of any anomaly of the blood-vessels. Reid, † in 1847, gives the correct explanation of the origin of these anomalies, and says that in those cases of monstrosity where the head and larynx are double, and the two bodies are fused together immediately below this, so that the lower part of the neck, the thorax, and thoracic extremities are single, and where consequently we have four vagi nerves in the upper part of the neck and only two at the lower part, the right recurrent of the right larynx hooks round the subclavian artery, and the left recurrent of the left larynx hooks round the arch of the aorta, while the left recurrent of the right larynx and the right recurrent of the left proceed to their destination from the pneumogastrics as they pass the larynges. Demarquay * (1848) was, we believe, the first one in France to record a case of irregular origin of the right subclavian artery with absence of the recurrent nerve on the same side.

Professor Turner, in his admirable paper,† cites cases where there was no innominate artery and an unusual origin of the right subclavian. In one instance the recurrent turned round the inferior thyreoid artery, and in others it passed directly inward to the larynx. He also describes cases where the aorta arched to the right side, in which the left recurrents wound round the obliterated ducti arteriosi while the right recurrents passed behind the arches of the aorta. Krause and Telgmann ‡ add to the number of irregular origins of the subclavian artery and recurrent nerves, which, according to Turner, occur once in two hundred and fifty cases.

More recently, Brenner, # in an interesting paper, describes two instances of this anomaly, and a third where the right recurrent branched from the pneumogastric opposite the sixth cervical vertebra, and turned round the vertebral artery to reascend to the larynx. Here the right vertebral artery represented the fourth right aortic arch. The branches from the aorta in this case were in this order: First, a vessel that divided some two inches from its origin into the right vertebral and the right carotid; then came the left carotid, the left vertebral, the left subclavian, and finally the right subclavian from the descending aorta. He further reports two cases where the aorta passed over the right bronchus, in which the left recurrents passed under the fifth left branchial arches represented by the obliterated ducti arteriosi. The last writer who has called our attention to this subject is Chaput, whose "Note sur un rapport peu connu du recurrent gauche" may be found in the records of the "Soc. anatom. de Paris," July, 1884.

To return now to the normal relation of the recurrent nerves to the large blood-vessels, we find (Luschka) that the left recurrent leaves the pneumogastric at an acute angle in front of the arch of the aorta; it then turns round the vessel from before backward, runs up between it and the left bronchus, following the posterior surface of the aorta, which it leaves between the origin of the left common carotid artery and the subclavian to ascend to the larynx in the sulcus between the œsophagus and trachea. The right recurrent, which is shorter than the left, branches from the pneumogastric in front of the right subclavian artery. Turning under that vessel and running up behind the right common carotid, which it crosses to reach the fissure between the œsophagus and the trachea, it then proceeds to the larynx. In their course the recurrents send communicating branches to the cardiac and pulmonary nerves, and supply the œsophagus, trachea, and inferior portion of the pharynx with numerous filaments.

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* "Bull. de la Soc. anat. de Paris," 1846, p. 111.

† Todd's "Cyclopædia," article "Par Vagum," 1847.

* "Gaz. méd. de Paris," 1848, p. 714.

† "On Irregularities of the Pulmonary Artery, Arch of the Aorta, etc.," "Brit. and Foreign Med.-chirurg. Review," vol. xxx, 1862, p. 173.

‡ "Die Nervenvarietäten des Menschen," Leipsic, 1868.

"Ueber das Verhältniss des Nervus laryngeus inferior vagi u. s. w." "Arch. für Anat. und Entwickelungsgesch.," 1883, p. 373.

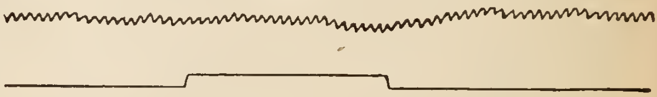
Rainey,[*] Hilton,[†] and Habershon,[‡] from their own dissections, have described communicating filaments, running from the recurrents to the superior laryngeal nerves, while Philipeaux and Vulpian[#] maintain that the anastomosing fibers which are found come exclusively from the superior laryngeal nerves. Luschka[‖] believed that in reality there was no communication between the superior and inferior laryngeal nerves, and that those filaments coming from the superior laryngeal which had this appearance were sometimes merely enveloped for a short distance in the same sheath with the inferior laryngeal, and at other times crossed it superficially at an acute angle to be distributed in the mucous membrane of the pharynx. Exner,[^] on the other hand, in one of the latest and most elaborate monographs on the innervation of the larynx, describes and pictures the ramus communicans, or "Galen's anastomosis." The relations of the inferior thyreoid artery and the recurrent laryngeal nerve are of practical importance in operations upon the œsophagus, and for the removal of the whole or a part of the thyreoid gland. Referring to Professor Dwight's paper[◊] on this subject, we find that Woelfler[‡] stated that the nerve always passed before a branch of the artery. Kocher,[‡] on the other hand, describes the artery as passing behind the nerve, coming forward on its inner side and bending over it. Rotter[‡] made some fifteen examinations, and found the artery in one third as described by Kocher. Dr. Streckeisen[**] reports the results of the examination of both sides of fifty-six bodies. He appears, however, to have had chiefly in mind the question whether or not the artery formed a loop around the nerve, and, if so, to what degree it surrounded it. It is not quite clear, therefore, in how many of his cases the artery passed before or behind the nerve. Dwight examined fifty-two bodies on both sides, and twenty-seven on one side. He found that on the right the artery was before the nerve thirty-three times, and behind it thirty-one. On the left the artery was before the nerve forty-nine times, and behind it fifteen. It appears, therefore, that the probabilities are equal that the right nerve or artery will be in front, and that on the left the chances are three to one that the nerve will be behind. Professor Dwight concludes that his series tend to support the practical deduction that, when it is necessary to tie the artery near the gland, the vessel should be carefully isolated.

It has been stated that the recurrent nerves contain sensory fibers, but we are not aware of any experimental proof to support this opinion. In our judgment, this point may be determined by the following methods:

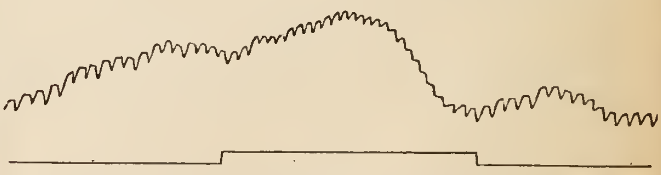
Experiment.—Anæsthetize a dog or a cat, and fix it on its back, with its lower jaw held open, so that a perfect view of its glottis can be obtained through the mouth by throwing in light by means of an ordinary head-reflector. The animal's tongue may be held out by the fingers of the left hand, and the epiglottis raised with a long forceps by the right hand. The recurrent nerve having been exposed and *cut*, the corresponding vocal band will be seen to be completely immovable, while its fellow moves rhythmically with respiration. Place an electrode on the central cut end of the recurrent, and stimulate with currents from the feeblest to the strongest intensity; no effect whatever will be produced on the glottis. But, if we now change the electrode from the cut end of the recurrent to the trunk of the pneumogastric of the same side, and stimulate it, we do obtain a decided reflex effect upon the glottis, which was impossible when its recurrent branch was irritated But perhaps a still more delicate proof that there are no sensitive fibers in this nerve is furnished us by the absence of a rise of blood-pressure in curarized animals on stimulation of its central end after section. The observation of Ludwig and Thiry that irritation of sensitive nerves was followed by a rise of the blood-pressure occasioned by reflex contraction of the muscular coats of the arteries led us to apply this test to the recurrent, the method employed being that described by Dittmar and Miescher in their researches[*] on the sensitive fibers in the spinal cord.

We have used dogs and cats for this purpose without in a single instance, being able to observe a rise of the blood-pressure when the recurrent was stimulated with weak or strong currents, which invariably followed when the internal popliteal nerve was irritated. We subjoin the details of one of the experiments, and the curves showing the difference between the action of these two nerves on the blood-pressure.

April 13, 1887.—Small black-and-tan dog. Curarized. Artificial respiration. Left recurrent and left internal popliteal nerves laid bare and cut previous to stimulation. The recording pen of a mercury manometer, which was connected with the right femoral artery, recorded the blood-pressure on a long roll of paper in the usual manner.



Irritation of central end of left recurrent nerve. I = 200.



Irritation of central end of left internal popliteal nerve. I = 200.

By reading these tracings from right to left, it will be seen that irritation of the recurrent nerve with a very powerful current was not followed by any change of pressure, while, when the internal poplitcal was stimulated, a marked rise was observed. We consider, therefore, that, as far as dogs and cats are concerned, the recurrents are purely motor nerves.

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[*] "The Recurrent Laryngeal Nerves," London "Med. Gazette," December 6, 1828.

[†] "Guy's Hosp. Reports," vol. ii, 1837, p. 514.

[‡] "The Pathology of the Pneumogastric Nerve," "Med. Times and Gazette," vol. i, 1876.

[#] "Sur l'anastomose qui existe entre le nerf laryngé supérieur et le nerf recurrent," "Arch. de physiol. norm. et path.," tome ii, 1869.

[‖] "Der Kehlkopf des Menschen," Tübingen, 1871.

[^] "Sitzungsber. d. Wiener Akademie d. W.," Bd. lxxxv, 1884.

[◊] "Boston Med. and Surg. Journal."

[‡] "Wiener med. Wochenschr.," 1879.

[‡] "Arch. für. klin. Chirurgie," Bd. xxix, 1883.

[‡] "Archiv. für klin. Chirurg.," Bd. xxxi, 1885.

[**] Virchow's "Archiv.," Bd. ciii, 1886.

[*] "Arbeiten a. d. physiol. Anstalt," Leipsic, 1870.

The recurrent nerve does not become the inferior laryngeal proper until it has reached the lower border of the cricoid cartilage. It is here about one millimetre in diameter.

Passing under the lower border of the inferior constrictor muscle of the pharynx, it enters the larynx behind the articulation of the inferior cornu of the thyreoid cartilage. It then divides into several branches, which innervate all the muscles of the larynx except the thyreo-cricoids. It is an occasional, but not a constant, phenomenon, that excitation of one of the recurrent nerves will cause a contraction of the vocal band of the opposite side, which tends to confirm the statement that there are connections between the terminal filaments of the recurrents in the laryngeal muscles. Such, then, being the course and distribution of the recurrent nerves, it remains now to investigate their rôle in carrying on the different functions of the larynx.

II. Physiology.

In looking through the mass of writings and experiments, from remote times to the present day, upon the physiology of the recurrent laryngeal nerves and the parts which they supply, we are struck, first of all, by the many discordant opinions that have been, and still are being, recorded, and feel that the old aphorism, "experiment is fallacious and decision difficult," is as applicable to the nineteenth century as to the time when Hippocrates gave it utterance. Yet, when we consider the improvement in recent years in instruments of research, and reflect upon the advance and development of physical science, we may ask if it is not now, perhaps, the experimenter that is fallacious, and not the experiment.

It is, indeed, surprising that scarcely fifty years have passed since the first experimental study of questions pertaining to the larynx which approached completeness and was of real scientific value. We refer to a paper by John Reid (1838), of Scotland, the title of which, however, would not lead one to look for as much valuable work upon the nerves of the larynx as it contains. This important paper, to which we shall again refer, was entitled "An Experimental Investigation into the Functions of the Eighth Pair of Nerves, or the Glosso-pharyngeal, Pneumogastric, and Spinal Accessory,"[*] and was founded upon experiments which, as Romberg[†] justly says, may serve as models of philosophical inquiries.

We know, however, that from the earliest times the voice has enlisted the attention and speculation of physiologists, but the experiments of all, from Rufus the Ephesian down to Reid (1838), except, perhaps, Magendie's, were directed chiefly to finding out what influence the pneumogastrics or the recurrents had upon the function of phonation; whether the voice was lost after section of these nerves; and whether it could be regained when once taken away in this manner.

Rufus of Ephesus, Galen, Vesalius, and others found that the voice was lost after the pneumogastrics or the recurrents had been cut or included in a ligature, although less careful observers came to different conclusions; but we need not at present review in detail the investigations of these early writers, inasmuch, as we have just mentioned, as their researches had reference solely to the relation of these nerves to the voice.

To come down to more recent periods (1734), one of the earliest papers is by Martin, entitled "The Experiment of cutting the Recurrent Nerves carried on farther than has hitherto been done."[*] We find in it, however, little to justify the title, as Martin confined himself to cutting the recurrents of a sucking pig in order to observe the effect on the voice, and recorded that, after the operation, "it could never give a squeak in the ordinary manner of these animals."

A more elaborate paper, by Haighton (1792), followed Martin's, on "Experiments made on the Laryngeal and Recurrent Branches of the Eighth Pair of Nerves, etc.,"[†] in which he calls attention to the "contrariety of opinions" that then prevailed, and adds, significantly: "This may possibly excite astonishment, when we consider that the subject is not of very difficult investigation, requiring for its accomplishment very little more than an unprejudiced mind and a hand accustomed to dissection." He determined that the recurrents were the true vocal nerves, and showed in one experiment on a dog that the voice could, "when taken away by the division of the nerves, again return." Galen, he tells us, said also that the voice "ought to return after it had been lost by experiment," owing to the communicating branches between the superior and inferior laryngeal nerves, but Haighton believed that it depended upon the reunion of the divided nerves. Magendie (1813), who, up to his day, furnished the most noteworthy experimental work on the larynx and gave a good description of the distribution of the recurrent nerves, believed, nevertheless, that all the muscles which they supplied opened the glottis, while the superior laryngeal nerves, in going to the thyreo-cricoid and transverse muscles, had exactly the opposite function, and closed the glottis. For many years a number of writers blindly followed the teachings of this great physiologist in regard to the functions of the laryngeal nerves and muscles. Hugh Ley, among others, believed with him that the recurrents opened the glottis, and that the transverse muscle was the principal closer of the organ; and in a work of much labor on "Croup"[‡] Ley wrote considerable that is of interest to modern laryngologists, but much also that is most extravagant.

We have mentioned elsewhere[#] that Magendie was the first who demonstrated experimentally the true action of the thyreo-cricoid muscle; and at the present day, when it is positively known that the office of this muscle in raising the cricoid cartilage on to the thyreoid is to produce longitudinal tension of the vocal bands, we can not read without a smile the reasons which Ley's fertile brain invented to account for this upward movement of the cricoid cartilage. He says he can trace no other purpose for it than that of throwing mucus into, and perhaps through, the chink. "This movement," he continues, "the posterior part of the ring being fixed, while the anterior is carried upward and inward, resembles that of a hoop, which will strike the skin with force when an attempt is made to raise it from its horizontal position by pressure upon its edge with the foot, or that of a basin containing fluid, treading upon the edge of which will throw its contents to a considerable height upon the limb, while the edge of the vessel itself may also strike the skin. The cricoid cartilage is thus a sort of pail, which, filled from the trachea, empties its contents into or through the glottis, and performs an office somewhat analogous to those scoops or buckets which, attached to a large wheel, help to deepen the river by drawing the earth from its bed, and, by the same revolution of the wheel, discharge their contents into an adjoining lighter for ballast or other purposes."

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[*] "Edin. Med. and Surg. Journal," vol. xlix, 1838, p. 109.

[†] "The Sydenham Soc.," vol. ii, 1853, p. 313.

[*] "Medical Essays of Edinburgh," vol. ii, 1734, p. 114.

[†] "Mem. of the Medical Soc. of London," vol. iii, 1792, p. 422.

[‡] "An Essay on the Laryngismus Stridulus or Croup-like Inspiration of Infants," London, 1836.

[#] "Experimental Researches on the Tension of the Vocal Bands," "Trans. of the Amer. Laryng. Assoc.," 1883.

Here we see one of the most exquisite of the co-ordinated movements of the larynx—a movement upon which one of the fundamental laws of vocal physiology is founded —actually compared to the working of a dredging-machine and a mud-scow!

Hilton, in his "Lectures on Rest and Pain," gives a far more poetical explanation of this upward movement of the cricoid cartilage. In speaking of the motor branch of the superior laryngeal nerve, which supplies the thyreo-cricoid muscle, he says: "No matter how rapidly the nervous influence passes, it must reach the nearest point first, and that is apparently the reason why this little nerve takes so short a course to the crico-thyreoideus. It has long been my habit to regard the crico-thyreoidei as the muscles which are intended to tune the vocal instrument; and, as the instrument must be tuned before it can be played upon, so this nervous influence, first reaching the crico-thyreoidei, the vocal cords are put into a due state of tension, preparatory to the more precise and accurate influence of the other muscles acting directly and indirectly upon the vocal cords."

It was not long, however, before important light was shed upon these questions. Reid (1838), whose paper we have already mentioned, gave an accurate account of the anatomy of the recurrent nerves. He refuted Magendie's statement that these nerves moved only those muscles which opened the glottis; he confirmed experimentally Magendie's views of the action of the thyreo-cricoid muscles, and described the functions of the other intrinsic muscles, as they are now generally understood. He showed also that irritation of the recurrents of a dog closed the glottis.

Three years later (1841) Longet's* well-known paper appeared, which covered very much the same ground as Reid's, with practically the same results. Longet, moreover, agreed with Bischoff* that the internal branch of the spinal accessory was the motor nerve which presided over the tensors and the closers of the glottis, and that the dilators were innervated independently. Cl. Bernard's† careful experiments confirm this view. He showed that section of the spinal accessory in a kitten five weeks old was followed by aphonia, but glottic respiration remained free. Two days afterward, the kitten having remained well but voiceless, its recurrents were cut, when it instantly died asphyxiated. He concludes from this that the pneumogastric has a motor power independent of the spinal accessory which permits the animal to breathe after the latter has been cut; or, in other words, the larynx is a vocal organ when excited by the spinal accessory, and a respiratory organ when under the influence of the pneumogastric, or more probably of other motor nerves associated with it. In certain animals, as the chimpanzee, the internal branch of the spinal accessory does not blend with the pneumogastric, but goes direct as a separate nerve to the larynx.

Conclusive as were the experiments of Magendie, Reid, Longet, and others who have followed them, we find, even at the present day, differences of opinion in regard to the offices of certain of the intrinsic laryngeal muscles, about which our knowledge is apparently exact, as their function has been experimentally proved. The salient points of these questions, however, although they will always be more or less at the mercy of theorists, may be considered as tolerably well established. We know that the recurrent nerves supply those muscles which both open and shut the glottis—all of the intrinsic muscles, in fact, except the longitudinal tensors, the thyreo-cricoids; also, in part at least, those muscles which compose the ventricular bands and the ary-epiglottic folds. It is reasonably certain, too, that the internal thyreo-arytenoids, the lateral crico-arytenoids, and the transverse muscles are the closers, while the posterior crico-arytenoids are the only openers of the glottis.

In coming now to the subject-matter of this paper, we wish to express our gratification at having had the other Boston members of this association (Dr. Knight, Dr. Langmaid, and Dr. De Blois) as witnesses to some of the results herein recorded. Our thanks are especially due Dr. J. Solis-Cohen for his interest in this subject, who, with Dr. Edward Martin, of Philadelphia, was willing to submit to a long and tedious journey to pass a day of experimental investigation with us in the laboratory. It has been our object in our present series of observations, as in all our experimental work of the past five years, to multiply largely the experiments and to record only such as were typical and had been seen by other eyes besides our own. We have pursued this plan in order to eliminate, as far as possible, sources of error, and, as our work has always been undertaken without any preconceived theory to support, or care as to what might or might not happen, provided a fact could be established, we think our mistakes—if mistakes there be—will be due to some fault in our methods rather than in our observation.

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* "Recherches expérimentales sur les fonctions des nerfs du larynx," etc., "Gaz. méd. de Paris," ix, 1841.

* "Nervii accessorii Willisii anat. et. physiol.," Heidelberg, 1832.

† "Fonctions du nerf spinal," etc., "Leçons sur la physiologie et la pathologie du système nerveux," tome ii, Paris, 1858.

(*To be concluded.*)

VAGINAL HYSTERECTOMY IN AMERICA,

WITH REPORT OF TWO CASES.[*]

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In no branch of the surgical art has greater advancement been made during the past twenty years than in the field of gynæcology.

America justly lays claim to her share in this progress. During the time mentioned, hystero-trachelorrhaphy has traversed the rugged path to success, and laparotomy, for various forms of disease, has struggled from infancy with its many enemies to maturity with its thousands of friends, and now occupies an enduring place in modern and future surgery.

In the same manner vaginal hysterectomy sprang into existence as a surgical procedure for the relief of a disease most loathsome and dreaded. It is a procedure yet in its infancy, but is daily laying increasing claims upon the profession for recognition, and, although not having its origin in America (for Andreas, of Cruce, is supposed to have done it in 1560, and Langenbeck is known to have done it in 1813, followed by Santu in 1822, Blundell in 1828, and Récamier in 1829), it was not looked upon with favor, and remained dormant as a surgical wonder until April 12, 1878, when Czerny revived it and did the operation which, with few changes, is the accepted operation of to-day. In Europe, during the past ten years, much has been written upon this subject, with scarcely a passing reference to American work. Here even the operation has been looked upon as an unsurgical procedure, cried down by almost the entire profession, while in the small amount of space devoted to it in our medical literature, foreign quotations and praise make up the major portions of the articles, much to the discredit of our own profession. My object in this paper will be to show what the profession of this country has accomplished with this operation, to place upon record a series of cases with individual methods of operation and treatment, and statistics which can not fail to be of interest, and to give America a just title to original work in this, as well as the operations previously mentioned.

The credit for the first removal of the uterus *per vaginam* for malignant disease in this country, so far as I am able to learn, is due Professor Paul F. Eve, of Augusta, Ga., who, on April 16, 1850 ("Am. Jour. of the Med. Sciences," 1858), did vaginal hysterectomy for extensive malignant disease of the uterus and vagina—at that time diagnosticated as encephaloid. This operation was done in the presence of Dr. J. A. Eve, Dr. Longstreet, Dr. Montgomery, and Dr. Henry Campbell, and to the latter I am indebted for an accurate description of the case and operation.

> The patient, a negress, twenty-eight years old, had been married, but never impregnated. Her disease had existed for three years, attended by frequent hæmorrhages from the vagina. She was placed under chloroform, in the lithotomy position, and the growth seized with forceps, which repeatedly gave way, bringing with it large masses of necrosed tissue. Finally the growth was dragged down to the ostium vaginæ, and, finding it impossible to remove the firm resisting body, it was carefully excised with a knife, from above downward, or in an antero-posterior manner. The left uterine artery, which bled quite profusely, was ligated with animal ligature. A solution of sulphate of zinc was applied to restrain further hæmorrhage, which had been considerable. There was no protrusion of the bowel, or other severe symptom, following this operation. In the mass removed the uterus was readily recognized, with its Fallopian tubes and round ligaments. The patient returned to her home on the seventeenth day, and on June 15th, two months after the operation, rode eleven miles to see the doctor, who found the disease returning in the vaginal wall. She died from hæmorrhage three months and one week after the operation.

Such is a brief history of the first case of vaginal hysterectomy in the United States for malignant disease. But this, it seems, was not the first time the uterus was removed *per vaginam* successfully, although not for malignant disease, for I find that as early as September, 1834, Dr. John M. Esselman, of Nashville, Tenn., successfully removed the inverted uterus by means of the ligature, and his patient made a good recovery. He again did the operation successfully in August, 1843, for inverted uterus containing a fibroid. Others followed his example with success. From 1850 to 1878, a period of twenty-eight years, I am unable to find recorded a single case of complete removal of a cancerous uterus *per vaginam*.

During that time in this country the fashionable method of operating seems to have been by abdominal section, and numerous cases are tabulated of removal of the uterus, or the corporeal portion of it, for malignant disease or fibroid. As early as June 25, 1853, Dr. Walter Burnham, of Lowell, Mass., operated by this method, followed by Dr. Gilman Kimball, of the same city, in August of the same year. At the end of the period mentioned, on January 30, 1878, Freund's operation, with the history of which you are all familiar, was given to the profession. Numerous cases of it are recorded, but death followed so closely in its wake that I hasten to dismiss it from my subject; and, as it is the purpose of this paper to speak of vaginal hysterectomy for malignant disease only, I will simply give a passing notice to the removal of the uterus by other methods.

On October 17, 1876, Dr. Emil Noeggerath, of this city, reported a case before the New York Obstetrical Society (see page 150, "Trans.," '76 and '78), entitled "A New Operation for the Removal of the Uterus with its Peritoneal Envelope through the Vagina for Carcinoma," which he stated was the first operation of the kind. Undoubtedly it was, and has remained so ever since, for the operation was never finished. A word of explanation for this remark is necessary and just:

> The operation was undertaken *per vaginam*. The anterior and posterior vaginal connections were severed with the galvanic knife, the openings thus made were stretched with an Ellinger's dilator, and the finger was passed into the pelvic cavity to

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[*] Read before the Alumni Association of the Woman's Hospital at its third meeting.

examine the broad ligaments. They were found to be hard and infiltrated, rendering extraction by the vagina difficult. The abdominal cavity was therefore opened through the linea alba, Péan's wire constrictors were passed in and the broad ligaments and tubes constricted; then the abdominal incision was closed. (This procedure at once excludes this operation from my list of purely vaginal ones.)

The patient died of septicæmia on the fourth day. An autopsy showed the uterus *in situ*, although nearly severed from its ligamentous attachments by the constricting wires.

The operation will pass into history as an uncompleted procedure, and I must look in another direction for the next successful case of vaginal hysterectomy in the United States.

This I find to be credited to Dr. L. C. Lane, of San Francisco, who, on the 11th day of November, 1878, did the operation for epithelioma of the cervix, and repeated it the same year. His method of operation I shall speak of farther on. I can find no report of its having been done again until January 28, 1880, when it was performed by Blake, of Boston, whose patient died in twelve hours from shock. The next to perform it was Cushing (September 4, 1881), of San Francisco, followed in a few days by Anderson and Taylor, of San Francisco, and Fenger, of Chicago, with successful results. Up to this time, you can see, the western part of our country took the lead. Then surgeons in the East resorted to the operation, and during the year 1882 six operations were done by as many operators, the result being a loss of five of the patients. In 1883 eight patients were operated upon by seven different operators with a loss of two. In 1884 eight operations were done by six operators, the result being one death, so that from November, 1878, to the first of the year 1885, thirty operations had been done, resulting in death in ten.

I have records of fourteen operations that were done during 1885, nearly half the number of all those done in the previous years I have mentioned. Of that number, eight ended fatally, and, with the exception of Lane', Mundé', and Weir', they were the operators' first and only cases. But do not hasten to condemn this operation on that account. One who has tried it knows the difficulties he has to surmount, and no one can appreciate them until he has done it himself; and when he has, almost his first thought will be, I can do it better the next time.

The record for 1886 seems to confirm this statement, for of the twenty-one cases for that year, of which I have a record, with the exception of three, whose cases were all successful, the operation was done by old operators, and of the twenty-one, five resulted fatally. This is a material increase over the records of the previous years, and evidences either an improvement in manipulative skill, or more careful choice of cases selected for operation. Of the sixty-six cases I have collected which will be shown in the table, twenty-three resulted fatally, while forty-three patients recovered and remained well afterward for periods varying from three months to three years (see table). The variety of disease for which this operation has been resorted to most frequently in this country has been epithelioma of the cervix uteri.

It is difficult to tabulate the exact number of each form of the disease, for, while one operator in his report speaks of his case as carcinoma of the cervix, another describes it as cauliflower, and still another as epithelioma, without going into details sufficiently to be positive. Of the sixty-six cases I have collected, thirty-three are designated epithelioma involving the cervix and extending into the body to a more or less degree.

Only four cases are diagnosticated as carcinoma of the body, three as sarcoma of the cervix, and only one as sarcoma of the body—evidence of a much more frequent occurrence of the epithelial form of the disease.

The methods of operation practiced by the operators of this country differ but slightly in their essential points. In the cases reported, two thirds of the surgeons have preferred the lithotomy position for the patient, while the remaining third have employed the Sims position. The choice as to opening the anterior or posterior *cul-de-sac* first has been about equally divided, while in the large majority of the cases the uterus has been retroverted for the purpose of bringing it into the vagina, and the broad ligaments have been tied in sections. Open dressing of the wound is the accepted method, iodoform gauze being used as an application to the cut surfaces, applied in the form of a loose tampon, and allowed to remain for several days, unless contra-indicated by a rise of temperature. Such is the method practiced by Dr. Lane, of San Francisco, who stands at the head of the list of operators, in point of number, having done nine operations, with a loss of three patients, while Dr. Bernays, of St. Louis, although second in point of number, heads the list of successful operators, having done six operations without a death.

Dr. Polk, of this city, favors the dorsal position, and, as his method differs so materially from that practiced by others, I desire to mention the essential steps taken in its performance. The patient on the back, he divides the vaginal mucous membrane into the cellular tissue on the sides first, preferably with the galvano-cautery, then through these openings he passes his modified aneurysm-needle, hooks down the uterine arteries and ligates them before cutting farther. The anterior and posterior vaginal wall are then treated in the same manner. When this has been done the patient is ready for the second step in the operation, which is a supra-vaginal amputation of the cervix. He then has only loose cellular tissue and peritonæum to deal with. Before opening the latter, the vagina is thoroughly cleansed with an antiseptic solution. This being done, the peritonæum is opened, and the remaining portion of the body is anteverted or retroverted, as the case may indicate. The ovarian arteries are then ligated, including as much of the tubes and ovaries as possible. The space then remaining between the uterine and ovarian arteries is ligated *en masse*, and small bleeding points in Douglas's pouch are ligated separately. No portion of the wound is closed by suture and no drainage-tube is used, but the wound is packed with iodoform gauze. In view of the good results obtained and reported by Dr. Baker at a previous meeting of this society, the question might be raised as to why the doctor should open the peritonæum and remove the remaining portion of the body after having done so thorough a supra-vaginal amputation without loss of much blood.

Opinions concerning the operation differ but slightly among the operators of the United States. It is the universal opinion that it is limited to certain forms of the disease—namely, carcinoma of the body and epithelioma of the cervix, neither of which shall have advanced sufficiently to have involved the peri-uterine structures, and that the organ shall be perfectly movable. Dr. Hunter and Dr. Bull, of this city, believe this operation the best that can be chosen for the class of cases I have mentioned.

My own experience has been limited, but peculiar features of interest have attended it, and I have taken pains to follow the cases closely to their termination, and will report their results in full. My first was—

Vaginal Hysterectomy; Recovery. Entero-vaginal Fistula Six Months Later; Laparotomy for its Relief.—Mrs. G., aged forty-six, married thirty years, and the mother of six children, the last two years old; two miscarriages since the birth of the last child, caused by taking rhubarb; menstrual function always regular, but profuse, with some pain during the flow; menopause six months previous. Her general health was poor, and she was thin and anæmic. Her present illness had lasted nine months. It began with pain of a lancinating character in the back, lower part of the abdomen, and vulva, radiating into the thighs and legs. The pain was increased by standing or walking. Local examination revealed epithelioma of the cervix uteri, extending into the cervical canal, and also involving the vaginal wall slightly on the right side. The uterus was perfectly movable, and she had not suffered from hæmorrhage. The patient's condition called for removal of the diseased tissues without delay. Removal of the uterus *per vaginam* was proposed, and on December 20, 1883, the operation was performed in the following manner: The patient was given an anæsthetic composed of equal parts of methylene and ether, and placed upon the left side in Sims's position. A large Sims's speculum was introduced, and the bladder was emptied and held forward against the pubes by a Peaslee's sound. I then grasped the cervix with a volsella, and carried it backward toward the posterior vaginal wall, thereby tilting the body of the uterus forward, and putting the anterior vaginal wall upon the stretch. The forceps being held by an assistant, the vaginal wall immediately in front of the cervix was caught up upon a tenaculum, and, keeping the cervix as a guide, a semicircular incision, about an inch and a half long, was made with a sharp knife, the cut being continued until the peritonæum covering the utero-vesical fold could be felt, and this also was caught up and cut with *blunt-pointed scissors.* The finger could now be readily passed to the fundus of the uterus, and swept along each broad ligament. Still retaining my finger within the incision already made, I introduced by the side of it the long handle of a scalpel, and gradually enlarged the opening by a process of scratching until it extended in a half-circle around the cervix to each broad ligament. Then, firmly fixing one blade of a volsella in the fundus, I made gradual traction forward, at the same time pressing the cervix back in the vagina until the fundus appeared at the opening, and was grasped with a catch forceps. The difficulty now arose of drawing the fundus into the vagina, but, by steady traction and using my thumb and finger, I was able (so to speak) to put the cut surface back over the fundus, and bring the latter into the vagina with little difficulty. A thin, flat sponge was then secured by silk, and passed into the pelvic cavity to protect the intestines. The patient being on the left side, the left or lower broad ligament was first ligated, including the ovarian artery, and was divided down to the vaginal roof, the uterine artery of that side still remaining untied. The uterine surface of the cut was secured by clamp forceps. The right ligament was treated in the same manner, and was severed down to the neighborhood of the uterine artery. The uterus was now perfectly movable, and I was able to readily pass a curved needle through Douglas's *cul-de-sac* at each side of the cervix, and to ligate the uterine arteries. This accomplished, both broad ligaments were entirely severed, and the uterus was separated from its attachment to Douglas's *cul-de-sac* and removed. The vagina was then thoroughly cleansed with a solution of bichloride of mercury, 1 to 3,000, and the cut surfaces were inspected to be sure that all diseased tissue had been removed. Several small points of indurated tissue were found. These were removed, including some of the apparently healthy tissue, until the whole circumference of the cut surface felt soft to the touch. This started afresh the hæmorrhage from the small vessels of the vaginal walls. These I did not attempt to ligate, as it is quite difficult to do properly, and takes much valuable time. The bleeding points were caught by small torsion forceps, which were allowed to remain until the next morning. The sponge was next removed from the pelvic cavity, and the latter was thoroughly cleansed with a solution of bichloride and sponged dry. The intestines could be seen lying high in the cavity, away from the pelvic roof. Another sponge was then introduced into the vagina and placed in apposition to the cut surface, and the patient was put to bed. The time of operation was one hour and forty minutes. The sponge was removed on the same evening, and the forceps the next morning. No hæmorrhage followed. The patient's recovery was facilitated by sufficient morphine to relieve pain, together with perfect cleanliness. The urine was drawn every six hours, and the vagina washed out with a solution of bichloride, 1 to 3,000. The bowels were first moved by enemata on the sixth day, and each day after that either by oil or enema. The daily temperature ranged from 100° to 102° F., and the pulse from 100 to 110. The ligatures were removed on the thirteenth day. Twenty days after the operation the patient sat up several hours. Twenty-six days after the operation, examination showed union perfect, and she was discharged well.

I am well aware that vaginal hysterectomy for cancer is an operation not yet accepted by a majority of the profession as a justifiable procedure, and it is only by tracing such cases to their final termination that their histories become of any value in enabling us to draw just conclusions concerning such operations. This I have endeavored to do in the present case, and for a concise record of the patient's condition from the time she left the hospital until her death I am indebted to Dr. H. W. Smith, of Placerville, California, who kindly furnished me with the following history:

The operation was performed in December, 1883, and she remained in good health until the following June, when, while making beds one day, she felt something suddenly give way in the lower part of the abdomen, and immediately began to have pain. She was then under the care of another physician. On July 28th she was seen by Dr. Smith in consultation, at which time she had stercoraceous vomiting, and all the symptoms of complete obstruction of the bowel. Examination *per vaginam* revealed a hardened mass in the pelvis in about the position that the body of the uterus should have occupied. The doctor does not state the method of treatment adopted at that time. He did not see her again until the following November. During the interval the intestine had sloughed, and a fistulous opening into the vagina had formed so that the contents of the bowels passed entirely through this opening, which readily admitted the passage of a large sound into the intestine. Very little cicatricial tissue surrounded the fistula. In November she placed herself under Dr. Smith's care, and desired an operation for closure of the fistula. At that time her general health was much improved, but she was mentally depressed, owing to her failure to secure permanent relief. At that time Dr. Smith scraped away some of the raw edges of the fistula, and, after submitting it to microscopical examination, declared it to be *non-malignant;* but, finding some hard lumps in the region of the ascending colon, he thought that possibly the growth had returned higher up in the pelvis, and that the lumps felt might be infiltrated glands. But, after one month's observation, with repeated examinations, and finding no change in her condition, he consented to operate for closure of the fistula. December 13, 1884, she was again placed under an anæsthetic, and, assisted by Dr. Cook and Dr. Stone, he made an incision through the linea alba five inches and a half long. The abdominal contents were examined, commencing at the stomach and following the intestine down to its obstruction, which was found to be eight inches from the ileo-cæcal valve. The ileum was twisted upon itself in a half-figure-of-eight manner, and bound down in Douglas's *cul-de-sac* by bands of plastic lymph, the remains of a former peritonitis. The portion of the ileum from the stricture to the colon had atrophied, and was no larger than a lead-pencil. The vermiform appendix was attached to the right broad ligament by plastic bands.

After thoroughly examining the pelvis by conjoined manipulation, the doctor states positively that there was no return of the cancer present, and that the lumps felt were fæcal concretions in the ascending colon. The intestines were normal except the atrophied portion, through which nothing had passed for six months. The spleen, kidneys, and liver were normal. After this thorough examination of the abdominal organs, the intestines were drawn up, and, after squeezing the fæcal concretions from the cæcum, the ileum was united to the ascending colon, just above the ileo-cæcal valve, by the Lembert stitch, the serous surfaces being carefully brought together, and the muscular coats being included in the stitches. Fine silk was used for sewing the gut together. After all the oozing had stopped, he closed the abdominal incision with silver-wire sutures, applied antiseptic dressings, and put the patient to bed. She reacted well after the operation, and in six hours flatus escaped from the rectum by passing a catheter, and for three days her condition was very favorable. During the third night she had a natural passage from the bowels, the first in six months. Her temperature ranged from normal to 101·5°, and her pulse from 112 to 128. There was no tympanites until the initiatory chill of peritonitis, from which she died on the morning of the fifth day, one year after the first operation.

(*To be concluded.*)

INDICATIONS AND CONTRA-INDICATIONS FOR LAPAROTOMY.*

By J. R. NILSEN, M. D.,

PROFESSOR OF THE DISEASES OF WOMEN IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

I feel compelled to begin with a confession and an apology. My confession is that, because plenty of time was given me for the preparation of my paper for this evening, I so delayed the matter that it became crowded into the background by much compulsory bread-earning work, so that for a time it was forgotten until I was awakened to realize my obligation by a communication received only two days ago. Accordingly, my apology is for presenting a paper, such as this will prove to be, upon a subject so broad, for if surgery has made any progress during the last ten or fifteen years, it surely has done so in the many brilliant ways laparotomy has been called to aid in saving life.

I will for the occasion deal with the subject not scientifically perhaps, but only to present a few of the principles underlying it. I will first address myself to the younger aspirants for surgical honors.

Perhaps in no field of surgery has there, of late years, been seen among the younger men such eagerness to be put on record for big operations as in the gynæcological. Enthusiasm and ambition are powers well worth possessing, but ambition, in harness with the other, needs a good bridle and strong reins. To go on record for having performed such and such operations amounts to nothing *per se*, or should amount to nothing. There must be a far higher aim than that to impel a young surgeon to undertake any serious operation upon the living human body.

My earnest advice to him is to leave it alone if, first, it does not lie distinctly in the line of his practice; and, secondly, if his surgical training from the beginning of the alphabet, successively through chapter after chapter, and the preparations for the special effort have not been such that he feels ready to attack any difficulty that may arise in the progress of the operation, say nothing of the self-evident, anticipated stages without being led (soliciting the guidance), step by step, by one skilled by long practice, and agreeable, by kind condescension, to be called assistant for the occasion.

If one sees, unmistakably, that his practice lies where he must some day take upon himself operations like laparotomies, there is a right way of going to work about preparing himself. He should see a good deal and look a great deal; assist as much as possible; work a good deal upon the cadaver; practice diligently all the minor steps of operations, such as tying sutures and ligatures, handling special instruments, etc.; and in all minor operations he meanwhile may be called upon to perform, be ever very sensitive and critical of his own work, watching and studying its results, and never try to force himself up into a higher class if he must say to himself that where he is he is still a bungler, unable to take upon himself the responsibility of an operation of any magnitude without some one to coach him through it.

Of course one might like to have present at an unusual operation that would demand laparotomy some one of recognized authority in such matters; the moral support of his mere presence might be worth something; but I, for my own part, should want even the most skillful surgeon living to keep his opinions to himself during the operation, with his full right to criticise—*mentally*, unless otherwise requested. After the operation I should like nothing better—this I say truly—than to hear the most searching criticism from such an one—from any one, in fact, capable of criticising.

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* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, May 7, 1887. For the discussion, see the Journal for June 25th, p. 722.

A contra-indication, then, to laparotomy is the absence of conclusive evidence that the operator has the needful skill and knowledge.

Successful laparotomies have of late been resorted to under so many different conditions formerly deemed fatal, and illustrative cases recorded so carefully in our journals, that I will here only mention some of the more prominent employments of the operation: In acute septic peritonitis, especially when not accompanied with far-advanced disease of the kidneys, to open and wash out the abdominal cavity; in obstruction of the intestines, so very fatal without surgical aid; in inflammations or abscesses about the vermiform appendix; abscess and tumors of the liver; for the removal of gall-stones; in abscess or tumors of the kidneys, or under certain conditions demanding the removal of one of them; in diseases of the spleen, with or without dislocation, when not dependent upon or accompanied by leucocythæmia; in certain diseases of the pancreas; in wounds of the intestines by puncture, or pistol, or gunshot. Under no circumstances does laparotomy seem more clearly indicated than here. More concerning gynæcology than general surgery, we have the conditions in pregnancy at term where contractions in the parturient canal forbid the passage of the fœtus through the natural outlet. Here we have the choice, now not difficult, between the old Cæsarean section, Porro's and Miller's operations, and Thomas's laparo-elytrotomy, etc. In unmistakable extra-uterine pregnancies, the choice lies between laparotomy for the removal, and electricity for the destruction, of the fœtus. Either of these conditions would alone be more than a sufficient topic for an evening's discussion.

But I will rather go on to the points on which I invite discussion more particularly. There is one condition for which laparotomy more and more appears to me the rational resort, as soon as it shall be demonstrated that the operation can be made in itself harmless here, as it practically has become in the hands of a few abroad. I allude to extreme and persistent retroflexions where pessaries can not be borne or after exhaustive trials do no good. I have been working hard and faithfully without success with some such cases, and think I shall finally be compelled to try laparotomy, when I shall have determined upon the best method of securing the forward fixation of the fundus uteri.

We have recently been told here and abroad that the flexed condition of the uterus has little or nothing to do with the symptoms, these arising from abnormities in the tubes and ovaries and disappearing upon the removal of these organs. I do not think that this theory has been so universally accepted as to be allowed to influence operators to disregard the faulty formation and position of the uterus, as I have seen this condition disregarded at operations based upon said theory. It looks to me as if in the near future laparotomy would play a prominent part in the treatment of this so common affliction, and that not by the removal of the uterine appendages, as my belief is, unless these prove at the operations to be extensively diseased. I have been speaking of cases with no adhesions between the fundus and the parts lying behind it, but I believe that even where such do exist, and perhaps especially in such cases, shall we come to rely upon the intra-abdominal treatment. We are surely justified in saying at least that all cases of retroflexion with adhesions do not depend upon the condition of the ovaries and tubes for their symptoms any more than cases where no adhesions exist. In the latter, well-adjusted mechanical means do often enough entirely and permanently relieve even very distressing symptoms, and when the pessaries, sooner or later, happen to give trouble, I do not agree that this is always due to pressure upon diseased tubes and ovaries. There are often exceedingly tender spots within reach of the examining finger in patients whose ovaries and tubes have been removed even for years. Various forms of anteflexion pessaries, formerly used more than now, often caused pain, but not because they pressed upon these organs. Say to those who insist that the symptoms emanate from the ovaries: "But what if the examining touch can not detect anything wrong about them, and if upon opening the abdomen they appear only little affected?" You may get for answer: "They are the cause of the symptoms, no doubt, and should be removed." It is not much to offer for elucidation when I say that I believe we shall soon know what to do with these trying cases without that radical procedure. We have recently had a boom in the so-called Alexander's operation, but, if I mistake not, active minds are at work now because it did not meet the expectations placed upon it. The difficulty has been to discover a sure method of anchoring the fundus. I think we are fast approaching the solution. Dr. Fritsch, of Breslau, says, when speaking of Alexander's operation: "I have not yet performed the operation, and can not therefore express my opinion as expert. Meanwhile, I do not believe that I ever shall perform it. He who understands how to manage pessaries has such excellent results with a less dangerous method that he will not feel called upon to perform the Alquié-Aran-Freund-Alexander-Adams operation for retroflexion." This is so generally—in fact, with the great majority of these cases; but I should feel tempted to defy any one to accomplish anything in some cases that I have seen. A few of these patients, now under my treatment, have gone through a number of operations by some of our most brilliant gynæcologists without any good result whatever. They have tried every possible procedure short of laparotomy. I regret that Dr. Fritsch is so far away. I have had good success with a number of bad cases, but with some of them not until I found, after much experimenting, the support of just the right material and size, and a few patients took all the patience and ingenuity at my command.

I am often invited to and have seen a number of laparotomies for salpingitis, oophoritis, and the two conditions combined, and I see many reported. But the reports generally lack to me the essential points of interest. I have not seen two pairs of ovaries and tubes precisely alike, and the procedures for their removal differ in all cases in some particulars, so that little is to be learned from reading the reports as they generally appear. It is not satisfactory and conclusive when I read or hear that a laparotomy was done "after the ordinary modes of treatment had failed." A satisfying report to me would be one giving every detail of the treatment previous to the operation. I have more than once been present at the removal of ovaries that had a most uncomfortable resemblance to perfectly normal organs. These operations have taken place in hospitals, and I should like some of you present to help me to answers to the following points: Are we not very apt in the hospitals to operate without ascertaining how far other means really have been resorted to, and is it not common enough to regard as conclusive some one's, even the patient's own, statement that she has "tried everything for years," and so operate as a supposed last resort?

It reads well, and has its influence for good, too, of course, that Dr. A. has performed so and so many laparotomies for the removal of the uterine appendages without one death. I take to myself pleasure at and am proud of my friend's successes. That is all very well and highly creditable; but, supposing some one of recognized infinite knowledge in matters medical should say that a certain percentage, be it 50, 20, or even 10 per cent., of the cases might have been completely and permanently cured if the right means had been applied without resorting to the sterilizing operation. What then?

Dr. A., we will suppose, has a large hospital service; his patients come from among the poorer classes. Before entering the hospital, have they all been able to engage physicians who had it in their power to try all known modes of treatment, or several of them, or any of them? Here is Mrs. Malony, very ill, and very poor. She went to Dr. B. three times, and then her means gave out. Dr. B. advised her to go to a dispensary; she did (and, unfortunately for her, not to the Post-graduate). She came into the hands of Dr. C., who found a large, tender uterus, great tenderness in the parametrium on both sides, and a swelling-like something where the ovaries and tubes should lie, and so he put down in his case-book: "Hyperplasia of the uterus; chronic oophoritis, with disease of the Fallopian tubes"; painted a large figure with iodine upon the vaginal wall twice a week for two months, and told her to take a hot injection twice daily, without telling her how or how long to take the douche. After the two months he thought her a little better, but still she remained pretty bad. "Would Mrs. Malony be willing to undergo an operation? Everything else had failed." Indeed, she would. "Anything to get well." So she was sent to the ward of Dr. A. "Gentlemen, I shall to-day perform laparotomy upon this patient, who was brought here last week by Dr. C. for the removal of her ovaries and tubes, which are probably far advanced in disease, and give her constant intolerable suffering, even after all other means have been systematically used without the slightest effect." So Mrs. Malony has them removed. One more successful laparotomy—done as a last resort. How much of the bulk of our statistics is made up of similar cases, and how long after their discharge as cured are the patients watched carefully?

Thorough and complete systematic treatment is, as a rule, not given to the poor; they don't get it. Do they? If there is anything wrong in the neighborhood of the ovaries, the poor things—the ovaries I mean—are apt to be taken to a new neighborhood, instead of having their surroundings made fit for them to live in peaceably and peacefully. Or am *I* all wrong in saying this? I ask for judgment. I have, of course, been speaking of cases such as yield ovaries that have to be sent to the pathologist to determine if they are diseased.

"Here is a woman whom I have cured without the removal of any of her organs after, she says, everything else had been tried and laparotomy proposed, before she came into my hands."

More pride to me, infinitely more, in saying that than in reporting a successful Tait's operation. which often means—is it not so?—that the patient didn't die on the table, nor a week after, and was discharged cured six weeks later, entirely free from all her former symptoms. Give a poor, hard-working woman six weeks' rest and good feeding, with such extras as an operator is willing to procure for her for the sake of an operation, and she may often be cured by that alone.

I will state frankly that I feel most keenly the responsibility I assume every time I open a woman's abdomen, and in any case my diagnosis must be to me satisfactory and unmistakable before I do it. I do not mean to say that, for example, the exact nature and condition of one or more tumors of appreciable size must be absolutely determined before laparotomy is ventured upon, but I must know that, with the fact that I have myself for a reasonable period (consulting authorities) done all in my power to alleviate the patient's sufferings without any results, I do find existing a pathological condition which I can positively say is one or more of two or three things, either of which alone is capable of producing symptoms such as the patient exhibits, a pathological condition probably removable by operation.

It may be arrogance in one to say: "Now all has been done that can be done," yet he may say: "All has been done that I can do." But just there lies the danger. How can he answer this question to himself: "How much do I know about it?"

I will raise one question here: Can we, in the light of our present experience, promise to any sufferer certain and absolute cure by removal of the uterine appendages?

Now, this is a momentous question, carrying the burden of the whole matter, and, if it must be confessed that the answer can not be made in the affirmative without many mental reservations, it behooves us well to walk very cautiously. Are such mental negative reservations necessary? For answer, here are five quotations from five different men in New York, some of them eminent in their specialty, all gathered from one evening's discussions, published:

Said one: " . . . . for the relief of the persistent pelvic pains that sometimes remain after the removal of the tubes and ovaries."

"Although the patients upon whom I have performed this operation have all recovered, several of them have not been relieved of their pain."

"This experience . . . . went far to prove that the pain in question was of such a character that it would sometimes not be relieved by an operation."

A fourth one said about a case after the operation for hystero-epilepsy: "The patient had no more attacks after the operation until she was examined some months later. I found then a tender spot which gave her great pain. After returning home the patient had an attack like her former ones."

"I am sorry to say that I have several cases in which pain has persisted after laparotomy, and I propose to try the effect of electricity on them," and so on.

Some of those whom I have known to make use of the word several (not here quoted) have had no more than from eight to a dozen cases on record, and "several" means, in law at least, any number below seven, I think.

Said one operator: "Oh, she has had a whole bevy of children, and it will be much better for her if she has no more." Another said: "Fortunately, these patients belong to a class where it would seem a blessing to free them from any more child-bearing." He might have added: "Therefore the fact that she is rendered sterile by the operation need not have great weight in determining what to do." Let me tell you a little story, and compare it with the foregoing. It is not made up:

Mrs. G. was the mother of three living children, one boy and two girls, and had lost two or three. She had worked hard for many years, for she was poor, and her husband, a man of about forty, had only recently worked himself up to a position where he was able to earn from $3.75 to $4.50 a day as an engraver. The woman became a sufferer from pelvic troubles. All ordinary means were tried without any good. She became very hysterical. Her husband took to drinking during the days of strikes two years ago. The doctor could do no more for her except laparotomy. She was persuaded by Dr. X. that it was the only thing left to do. She would have consented to have her head taken off in her despair, for she was simply worn out, and tired of living. Her uterine appendages were removed successfully—the doctor got them all out—and she remained in the hospital for six weeks, there being well fed and resting, while knowing that her children were taken good care of. When she again resumed her household duties some of the old pains returned. A few months later her children were taken ill with scarlet fever, and one of them with some lung trouble. The boy and one of the girls died, and the remaining child is a complete little wreck. Just a year ago the husband's mother died in Germany, leaving him a little property. Shortly after that he stopped drinking and got good work again. He is now getting on very well. The wife, not very strong, is able to employ servant-girls and can rest more. She still has some pain, but the great black cloud upon her life is now the consciousness that she can not have another child, and she is only a little over thirty years old and in such changed circumstances. She bewails the day when she consented to the operation.

I have out of my own experience material at command for more stories of similar character.

Now, it won't do to close without trying to give the impression that I know a good deal about curing bad cases without operating, but I will cite only one case out of a number:

Mrs. O. came to me about one year and a half ago with constant pain in her left side and presenting symptoms of well-marked hystero-epilepsy. She had many attacks in my office, one of them lasting nearly six hours, and to get her home that time I put her under chloroform and carried her into a carriage, her husband assisting me, and kept her anæsthetized until she was put to bed in her home in 110th Street. She suffered tortures at her menstrual periods, and on the last day of the flow she was always seized with uncontrollable vomiting, which never stopped until her doctor gave her large hypodermic injections of morphine. This had been going on for five or six years. She always fought against the vomiting for fear of the after-effects of the morphine, and once insisted upon leaving it alone until it should stop of itself; but she fell into a state of collapse after two weeks' vomiting, from which she rallied with difficulty. A short time before she came to me I had done an operation—not laparotomy—upon a friend of hers which proved a blessing, and, since she had been told that nothing more but an operation could be done for her, she at last made up her mind to have it done, and came to me for that purpose.

I could learn nothing definite concerning the nature of her previous treatment, so I went to work without taking out the ovaries. The galvanic current, carefully regulated according to the daily changes in her bodily resistance, played the most important part in the treatment. She has now not vomited nor had an attack for six or seven months, and comes only once a week, or when she feels "a little peculiar." She has at times slight pains where they used to be so severe, but not enough to mind them, she says. In her pelvis I found at first on the left side two very distinct tumors, of about the size of my thumb, and on the right side one single larger mass of ill-defined outlines. The latter is much smaller than it was, and the others are a little diminished in size, though not very much, and can easily be palpated.

This case is by no means unique in my own experience.

A young lady is now under my treatment for a very grave form of dysmenorrhœa and constant pelvic distress. She has had a number of physicians for more than seven years, was for three months in the private hospital of one of the leading gynæcologists of our country, and is no better to-day than seven years ago. She is bright, handsome, fitful, and headstrong. Regarding her history superficially, one would say that indeed everything had been done for her. I asked her one day if she had ever used hot douches. "Used them?" she said. "Don't talk to me about douches; it was my only diet at the hospital, and I had many hearty meals a day." She has been under my treatment now for about two months, and is no better. I have done all I could for her, but she has not done all nor half I have told her to do. If she were willing to carry out my orders, I might benefit her materially, or else feel compelled in time to recommend laparotomy. I say compelled to, for the mind, right in this matter, says: "I am afraid I shall be compelled, after all, to perform the operation." It is my endeavor to cultivate such a mind, and not one that says: "Aha, I guess here is a chance for a laparotomy."

We have a number of conditions where this operation is not only justifiable, but demanded. Large ovarian cysts are one of these. Fibroid tumors, when they cause a great dea of suffering or threaten life by flooding, are another. So is the rupture of cysts into the abdominal cavity with dangerous and unmistakable symptoms. Hæmorrhages likewise, from whatever cause, if clearly diagnosticated or even feared, demand the operation, etc.

I will add only two more of the many even important things left untouched in this my hasty production, and they are:

Heart and Kidney Diseases as Contra-indications for Laparotomy.—A heart will have to behave very badly indeed to deter me from an operation otherwise indicated or demanded. The choice of anæsthetic would here be of importance. I have seen some very poor hearts pass through even prolonged operations very well indeed.

Regarding kidney diseases, I will state in very few words how I stand. The gravity of the conditions calling for the operation must be put on one side of the balance, and on the other the extent of the renal disease present, and the weightiest must decide. I have seen patients with extensive kidney disease rally well from severe operations. On the other hand, I have seen them die in uræmic convulsions or coma within a week after minor operations when renal disease was not even suspected in them before the operation. As you know, some forms of kidney disease, even when extensive, may give no albumin in the urine.

But my paper is already too long for its contents, and, with a renewed apology for the meagerness of my hasty effort, I will close with the request that you in your discussion fill up some of the many gaps I have left.

INTUBATION OF THE LARYNX.

By E. FLETCHER INGALS, M. D.,

CHICAGO.

(*Concluded from page 15.*)

There is an old and, it is said, very efficient treatment for acute laryngo-tracheitis and bronchitis, which consists of simply withholding all fluids for forty-eight hours. This gives color to the hypothesis that, after intubation for diphtheritic cases, this method not only avoids the danger of exciting inflammation, but actually aids in curing that which already exists.

Most valuable and interesting articles on this subject have been written by Dr. O'Dwyer, Dr. Waxham, Dr. Northrup, Dr. Hance, Dr. Caillé, and others. From these and from personal letters which these gentlemen have kindly furnished me, I have obtained reports of over five hundred cases. Briefly, these reports are as follows:

Dr. S. A. McWilliams, of Chicago, reports three cases, one of them in a child under three years of age—all of diphtheritic croup. The tube was worn in them from one half to forty-eight hours. There were no recoveries. The immediate effect of intubation was excellent. In two cases the tube was coughed out, and the parents refused to have it reintroduced.

Dr. William Cheatham, of Louisville, Ky., writes me that he has had fifteen cases of intubation, ten of them in patients under three years of age. Tubes were worn from eighteen hours to four days. There was immediate relief, except in one case. This latter patient was found pulseless; when seen, the tube was introduced, brandy was injected hypodermically, artificial respiration was resorted to, and in half an hour the child was breathing well again. It died in twenty-four hours from heart-failure. There was one recovery among his cases. The doctor says he will never do another tracheotomy for croup, and believes intubation is far better. A majority of his patients died from extension of the membrane, others from heart-failure and asthenia.

Dr. George W. Mason, of Bloomington, Ill., reports three cases, all in patients over three years of age. One case he terms diphtheritic croup, and the others membranous croup. There was relief to respiration in all. The tubes were worn from one to one hundred and twenty hours. There was one recovery. The third patient died from complication of whooping-cough and pneumonia.

Dr. Homer O. Bates, of Chicago, reports six cases, two of them in children under three years of age. All suffered from diphtheritic croup. The tube was worn from one hour in one case to four days and four hours in another. The relief was immediate. There were three recoveries. Dr. Bates believes intubation a valuable means of relief, and in proper cases the best treatment, but that it can not supplant tracheotomy in all cases. The youngest patient that recovered was eight and a half months old. This patient came near dying from diphtheritic bronchitis, but was finally relieved by the same prescription that I had given in one of my successful cases (No. 5).

Dr. F. Henrotin, of Chicago, reports nine cases, two of them in children under three years of age. These patients were suffering from croup, all but two showing more or less diphtheritic membrane in the fauces. The tube was worn from three to six days. In two cases no relief was given by the operation; in one only partial relief, and in the others there was complete relief from stenosis, and disappearance of its symptoms. He had three recoveries.

Dr. J. L. Mulfinger, of Chicago, reports two cases, one patient being eight, the other five years old, both suffering from diphtheria. One had relief almost at once, and recovered. The other had very little relief, even temporarily, and died in about twelve hours. In the one that recovered there was complete loss of voice for seven days after the tube was removed, and more or less aphonia continued for two months.

Dr. Hopkins, of Buffalo, reported six cases in which impending death was overcome, and life saved by intubation.

Dr. Hailes, of Albany, N. Y., reported two cases in which intubation was successfully practiced.

Dr. John B. Wheeler, of Burlington, Vt., reports the case of a child three and a half years old. There was improvement at once, but the tube became plugged with a large piece of membrane, and the child choked and died in about two minutes. The tube was retained about fourteen hours.

Dr. E. D. Ferguson, of Troy, N. Y., reports one case, in a child three years old, suffering from diphtheria. When the obturator was withdrawn, respiration was stopped completely, and tracheotomy became necessary. The child died in about thirty hours. False membrane had probably occluded the lower end of the tube.

Dr. Charles Denison, of Denver, Col., reports one case of diphtheritic laryngitis in a child six years old. On introduction, the tube displaced some membrane, and the tube and membrane were immediately ejected, and it was not necessary to reintroduce it. The child was laboring for breath, with its lips purple and its face suffused before the intubation.

Dr. F. Tipton, of Selma, Ala., reports one case in a child four years old suffering from diphtheria. The tube remained in position fourteen days. There was immediate relief, and the child recovered. The same physician reports that one tube went into the stomach, but was passed in ten days without ill effects.

Dr. L. H. Dunning, of South Bend, Ind., reports seven cases, four of them in children under three years of age. Two of them were for diphtheritic croup, five for pseudo membranous croup. The tube was worn from twelve to one hundred and twelve hours. In five cases there was almost immediate relief. In one case there was relief after reintroduction of the tube. In another case the patient had a violent struggle after the tube was placed, and finally, when death seemed imminent, a pseudomembranous cast of the larynx and trachea, one inch and a half long, was forcibly ejected from the mouth. This patient made a speedy recovery. The doctor is enthusiastically in favor of the operation, which he thinks simpler than catheterization of the bladder.

Dr. Irwin H. Hance, of New York, informs me that he has had six cases of intubation, all in children under three years of age, four cases of diphtheria, one of which was complicated with scarlet fever, one case of diphtheritic laryngitis, one case of catarrhal croup with extensive bronchitis. The tube was worn from six hours to five days and a quarter. This latter patient recovered; the remaining five died. In five cases there was immediate relief; in one case no relief until after laryngotomy had been performed. In this last-named case there was no relief while the tube was in place. It was placed in the larynx five times, and remained once for twenty-five minutes, without diminution of the severity of the dyspnœa, which was more severe while the tube was *in situ*.

Dr. Montgomery, of Philadelphia, reports thirteen cases. In no case did death occur in less than twenty-four hours, and the relief from dyspnœa was prompt in every case. Six of his patients recovered. The youngest child, eighteen months old, died on the fifth day in convulsions. The youngest child to recover was two years old. In one case the tube was coughed up and swallowed. It was passed *per anum* two days later with no ill effects.

Dr. A. E. Hoadley, of Chicago, reports nine cases, two of them in children under three years of age. All had diphtheria. The tube was worn from twelve hours to four days. The operation afforded complete relief from the difficult breathing, but there were no recoveries. One of the patients died from pneumonia, one from extension of the membrane into the finer tubes, and seven from the constitutional effects of the disease. He prefers the deep position of the tube.

Dr. J. Tascher, of Chicago, reports eleven cases, three of them in children under three years of age. The tube was worn from eight to seventy-two hours. He says there was immediate relief in every case. He had four recoveries. Four of the deaths were from broncho-pneumonia, one from occlusion of the tube by a large piece of membrane, two from blood poisoning. On six of the patients he used the short tube with small head, already described, and of these three recovered. He states that none of these six patients had much difficulty in swallowing.

Dr. D. O'Shea, of Chicago, reports thirty-seven cases, eight of them in children under three years of age. These patients had diphtheritic laryngitis. The tube was worn for periods varying from six hours to eleven days. He reports fourteen recoveries. In two cases patients had spasmodic action of the larynx after the tube was coughed out, and died in a few minutes.

Dr. A. B. Strong, of Chicago, reports thirty-one cases, eight in children under three years of age. All these had membranous obstruction of the larynx. The tube was worn from a few hours to seven days. The patients had immediate relief in every instance. There was one recovery. The remainder died the second or third day, usually from bronchitis. He objects to the operation for the reason that patients can not eat with the tube in position.

Dr. F. C. Schaefer, of Chicago, reports four cases. Two of the patients were under three years of age. The tube was worn from one hour to two days. All had diphtheria. There was great relief in all cases except the last one, in which a short tube was used. This child had pneumonia at the time, and there was but slight relief. He had no recoveries. In one case tracheotomy was performed twenty-four hours after intubation, and the child lived thirty hours after the operation.

Dr. A. Caillé, of New York, writes me that he has operated in twelve cases, seven of them in children under three years of age. Seven of these had pharyngeal diphtheria with laryngeal stenosis, four had true membranous laryngitis, and one had urgent stenosis of five days' standing. The tube was worn from four hours to fourteen days. The result was very satisfactory in every case. He had five recoveries. The doctor says he finds that solid food chopped fine and moistened is swallowed fairly well. In addition he gives ice, and stimulates *per rectum*. He gives mercury through the cutis by means of lanolin. He has done tracheotomy twenty-one times with only five recoveries, and says that in the majority of cases he shall intubate. In certain cases of septic diphtheria with stenosis, where proper and sufficient nourishment and stimulation were a *sine qua non*, he might prefer tracheotomy. Recently he has been in the habit of removing the tube after twelve, twenty-four, or thirty-six hours, if the patient does not get enough nourishment, and then, after giving food, medicine, or stimulants by the mouth, he reintroduces it if necessary, repeating this process several times as needed. He gives finely divided solid food moistened with water and no liquids, and says his results have been better since he has followed this plan.

Dr. C. E. Denhard, of New York, writes me that he has operated on twenty-four patients with diphtheria, seventeen of them under three years of age. The tube was worn from two to eleven days. In every instance there was immediate relief. There were ten recoveries. He says that out of thirty-four cases of tracheotomy he had fifteen recoveries. All who recovered were over three years of age, excepting two, aged two and two and a half respectively.

Dr. W. P. Northrup, of New York, writes me that he has operated on thirty patients with six recoveries. Twelve of his patients were under three years of age. The tube was worn from two hours to seven days. In every case but one there was effectual prompt relief. In that exceptional case the patient died two hours after the intubation from extension of the diphtheritic process. All the patients had albuminuria and diphtheria of the pharynx. Two died from heart failure while apparently doing well. He has never had the slightest accident attributable to the tube, but has found, in the course of his autopsies at the asylum, two ulcers at the lower end of the tube where it rubbed against the anterior surface of the trachea; but he is uncertain whether or not there were defects in the tube to account for the irritation.

Dr. Northrup says his predecessor put a tube into the stomach by mistake. It passed in fifty-two hours unaided and without symptoms.

Dr. Joseph O'Dwyer informs me by letter that he has operated in one hundred and thirty-seven cases of croup since the beginning of his experiments in 1880. Of these he reports twenty-seven recoveries; but he adds that a large number of them were experimental cases before the instruments had been perfected. The average time during which the tube was worn in eighteen cases of recovery was four days and twenty-two hours.

Dr. F. E. Waxham, of Chicago, in addition to the eighty-three cases already reported with twenty-three recoveries, tells me that he has had forty-eight additional cases with eleven recoveries, making one hundred and thirty-one cases with thirty-four recoveries. The youngest child to recover was nine months of age, the oldest nine years. He believes the percentage of recoveries under three years better than after tracheotomy, but for patients over three years the percentage after tracheotomy seems a little better than after intubation. He adds that all the cases operated on were desperate, many of the patients being moribund at the time, and that in no case was the tube introduced until the dyspnœa had become urgent.

Thus, altogether, I have reports of 514 cases, in 134 of which, or 26$\frac{7}{100}$ per cent., the patients have recovered. Of these, many were under three years of age, and a number of them recovered. Dr. Waxham states that of fifty-two patients under three years of age, 25 per cent. had recovered. This is certainly a remarkably good showing, for of children under four years in whom tracheotomy has been done for diphtheritic laryngitis, the statements of different authors, though varying widely, seem to prove that not more than 15 or 20 per cent. recover. The statistics of tracheotomy in the same disease for all ages show that from 25 to 30 per cent. recover, but very great disparity will be noted in the results of individual operators. That this disparity is partially due to the operation itself is possibly true, though this I believe is the least of the factors. Much, however, does depend on the judgment of the operator in determining the time for the operation, and on his personal influence in securing the consent of the parents early; much on the amount of care exercised by him in operating only on patients who are likely to recover, and on the subsequent care of the patient; but, most of all, the results will be modified by the epidemic influences and immediate surroundings of the case. It has been found that under the same circumstances as to operator, general surroundings, and treatment, the death-rate will vary greatly in different epidemics.

The same might be said of intubation of the larynx; but in estimating the value of the new procedure we must not forget that, in probably less than 10 per cent. of the cases that have been treated by it, it would have been impossible to obtain the consent of the parents to tracheotomy, and therefore most of those that have recovered must have perished but for the new method.

Remembering that in the fatal cases many have died of bronchitis or pneumonia, which may have been caused by foreign substances in the air-passages, and considering the satisfactory results in the few cases in which fluids have been withheld while the tube was in the larynx, I feel confident that the percentage of recoveries from this method will be much greater when more care is exercised in this respect.

When medicines fail to relieve pseudo-membranous laryngitis, no time should be lost in providing for the free entrance of air, and for this purpose either intubation of the larynx or tracheotomy should be resorted to. The former may be done more quickly and safely and with less shock to the patient, and with less objection from friends; therefore it should be tried first, unless there is serious obstruction in the fauces or trachea; but the operator should always be prepared to open the trachea in case loosened membrane should be forced down by the laryngeal tube. Tracheotomy should also be practiced in cases where the laryngeal tube from any cause fails to relieve the dyspnœa, unless we have sufficient reason to believe that this operation would also fail. In cases where the operator believes that false membrane is loose in the trachea, no time should be wasted by attempting to remove it with a forceps, for, though this attempt may occasionally be successful, it is much more likely to fail, and then a death will result which might have been averted by tracheotomy. If, however, it is thought best to introduce a forceps into the trachea, Mackenzie's long laryngeal forceps opening antero-posteriorly will be found the best.

While intubation can not always take the place of tracheotomy, it has much to recommend it in the majority of cases. In conclusion, I wish to state again what has already been said:

1. Intubation may be quickly and easily performed, and with but little danger.

2. Friends readily consent to the procedure.

3. There is no necessity of tedious after-treatment, as the tube is kept clear by the respiratory efforts.

4. The results so far are practically as good as those of tracheotomy at all ages, and apparently better in very young children.

5. To secure the best results, great care must be taken to prevent the entrance of foreign substances into the trachea.

6. At present, with O'Dwyer's tubes, the most successful plan is to absolutely prohibit the deglutition of fluids while the tube remains in the larynx. Small bits of ice may be sucked to allay thirst; soft solids may be swallowed, and fluids may, if necessary, be supplied by enemata, or the tube may be removed to feed the patient, and then be reintroduced.

7. Tubes with smaller heads, designed to rest on the vocal cords, have not yet been used sufficiently often to enable us to speak positively about them. If experience proves that they do not often slip into the trachea, and that they do not injure the vocal cords, they will be especially useful, for they will nearly overcome the difficulty in deglutition, and patients wearing them may eat and drink at pleasure, excepting when paralysis or some other result of the disease prevents closure of the epiglottis.

8. Medical treatment should be carefully attended to after intubation, and we must spare no effort to prevent extension of the disease to the bronchial tubes, or to relieve the dyspnœa which it occasions. I apprehend that successful after-treatment depends largely upon the judicious and timely use of suitable expectorants and respiratory and cardiac stimulants.

9. Though short tubes may be used with good results in some cases, the danger of their becoming filled with pseudo-membrane is so great as to render long tubes preferable.

10. Intubation may and should be practiced early, and it does not preclude subsequent tracheotomy.

11. For serious cases of spasmodic croup, and for œdema of the glottis, this will prove a most useful procedure. Lastly,

12. For the treatment of chronic laryngeal stenosis this method will, doubtless, be of value.

Considering what has already been accomplished, we must acknowledge our debt of gratitude to Dr. O'Dwyer for perseverance in perfecting this operation, and for demonstrating its practicability, and we must thank Dr. Waxham and others for their enthusiastic employment of it, which has led so many physicians to test its merits.

64 State Street, Chicago.

Correspondence.

LETTER FROM VIENNA.

A New Theory of Respiration.—Enucleation of the Astragalus in Cases of Club-foot.—The Influence of Irritation of the Fifth Nerve on the Tactile and Temperature Senses of the Skin of the Face.—The Health of Professor Billroth.—The Tscheck Faculty of Prague.

Vienna, *June 19, 1887.*

At a recent meeting of the Imperial-Royal Society of Physicians, Professor von Fleschl propounded a new theory of respiration, of which I will give the chief features. He had sought to ascertain the utility of the heart-beat. It would be most unreasonable, he said, to have such a motor force as that of the heart simply to drive the blood mechanically into the vascular system—that work could be much better done by a gradually increasing *vis a tergo*, and the heart-beat was dangerous to life by the consequent variations in the blood-pressure. Why did so many persons die of apoplexy? Because of the great oscillations of the blood-pressure caused by the action of the heart. The heart-beat must, therefore, have another purpose than the merely mechanical act of keeping up the circulation. Referring to the familiar fact of the sudden setting free of chemical constituents as the effect of concussion, the speaker remarked that he had shown on a previous occasion that it was the beat of the heart that set carbonic acid free in the right ventricle. Now, oxyhæmoglobin was of such a stable constitution that the affinity of the tissues for oxygen was too feeble to enable them to withdraw it from the combination. But the blood, charged with oxyhæmoglobin, was subjected to energetic agitation in the left ventricle, and the oxygen was set free in the same way that carbonic acid was set free by the action of the right ventricle; the blood of the left ventricle no longer contained oxyhæmoglobin, but free oxygen. In the first volume of his "Archiv" Pflügge had discussed the mechanical influence to which the blood was subjected in the heart, and had described the agitation which it sustained there, but he had not emphasized this phase of it, and had considered the change of surface as the chief feature. The speaker remarked that it would be a mistake to suppose that the blood that came out by the aorta was the same that had been carried to the heart by the pulmonary veins. Both the hæmoglobin and the tissues had a certain affinity for oxygen, and the purpose of the heart-beat was to settle the matter in favor of the tissues. To sustain his theory, the speaker mentioned the following facts: The oxygen could not be set free from a solution of oxyhæmoglobin, at a temperature of from 0° to 10° Celsius, unless the solution was shaken energetically; agitation with a spoon was not sufficient, but it must be subjected to repeated and decided shocks. Pflügge had known this fact, but he had not given it the correct interpretation. Approximately, one third of the whole weight of the liver consisted of blood, the rest being parenchyma. Why, with the organ inundated with blood to this extent, was the hepatic artery so small in comparison with the size of the portal vein? Why did the tissue of the liver become necrosed when the hepatic artery was tied? These matters were explained by the speaker's theory. The blood of the hepatic artery contained free oxygen, whereas the oxygen of the blood of the portal vein, although it surpassed the other many times in quantity, was so combined with hæmoglobin that it could be of no use to the liver. It was known from the experiments of Claude Bernard, Stricker, and Albert that the blood of the left ventricle was cooler than that of the right ventricle by some tenths of a degree. This had been explained by the suggestion that the blood circulating through the lungs lost a part of its heat by evaporation and by contact with the inspired air. Heidenhain, however, had shown that this theory was not correct. He had caused animals to inhale air that had previously been heated and supersaturated with aqueous vapor, but nevertheless there was a difference in the temperature of the blood in the two ventricles. The speaker's theory gave the key to the true explanation. It was known that heat was evolved in every instance of oxygenation. In the lungs the blood still held its third part of oxygen in combination, and it was for this reason that it was warmer than the blood of the right ventricle. As to the left ventricle, cooling was due to the freeing of oxygen from its combination. In the aorta no considerable reoxygenation took place, for the blood coursing through that vessel still felt the force of the cardiac agitation, and it was interesting to note that the blood there was still cooler, by two tenths of a degree, than that of the left ventricle. The speaker illustrated his theory with several further facts, and said that he would give the full details in a work to be published in October.

At the same meeting, Docent Dr. Lorenz presented a case of congenital bilateral club-foot, in a boy eleven years old, in which he had enucleated the astragalus with a good result. Tenotomy had been performed on both sides, fourteen days after birth, but a return of the deformity occurred at the end of four years, and tenotomy was performed for the second time. After some time the trouble again recurred, and there was inversion of the foot to a high degree, so that the boy could not walk, and had intense pains on the slightest attempt at taking a step. For this reason, last autumn, the speaker performed *redressement forcé* on both feet, but obtained a favorable result only with the left foot. After long and unsuccessful treatment of the right foot, he decided to remove the astragalus. The result of the operation had been very favorable; the patient was now able to walk with security, and was free from pain. The speaker showed two astragali that he had removed in another case of congenital bilateral club-foot. The patient, a boy seven years old, was cured, but had as yet made no attempts to walk.

Dr. Urbantschitsch, professor of otiatrics at the Vienna Poliklinik, had very often, in cases of inflammation of the middle ear, observed a diminution of the sensibility of the skin of the corresponding side of the face, as well as changes in the temperature sense; and investigation had shown that these conditions disappeared with the subsidence of the otitis media, and were therefore to be attributed to the ear affection. From analogous observations that he had made on the sensory nerves, he had thought it very probable from the beginning that the changes alluded to were of a reflex character, and this he had been able to confirm experimentally, for he had found that a transitory irritation of the sensory nerves of the middle ear, and also of the territory supplied by the fifth, was followed by an increase of the sense of touch and that of temperature, lasting for some seconds only.

Professor Billroth has recovered from the acute pneumonia which threatened to put an end to his life, and is said to be about to leave Vienna in a few days for his wife's country residence at St. Gilgen. Dr. Pawlik, Docent in obstetrics and gynæcology at Vienna, has been named an ordinary professor at the Tscheck medical faculty of Prague—*i. e.*, the faculty which teaches in the Bohemian language.

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PASTEUR AND HIS VIENNA CRITICS.

First Article.

M. Pasteur has written a letter to the president of the Imperial-Royal Society of Physicians of Vienna in refutation of Dr. von Frisch's pamphlet and of Professor Billroth's comments, and the letter is published in the "Gazette médicale de Paris," together with a summary of the remarks made by Dr. Ullmann and Dr. von Frisch at the meeting of June 10th, at which it was read. M. Pasteur's letter is a dignified and argumentative statement, and it displays no resentment even in that portion where mention is made of Billroth's having applied to the writer's system of anti-rabic inoculations the derisive term *fiasco*. Incidental allusion is made to the unfavorable experiments of which De Renzi and Amoroso, of Naples, and Abreu, of Lisbon, have published accounts, but the writer contents himself with referring to a criticism of them by Dr. Gamaleïa, of the Odessa anti-rabic laboratory, contained in the "Annales de l'Institut Pasteur" for March 25th.

M. Pasteur remarks that von Frisch's statements are so absolute as readily to seem decisive to a reader who is not well up in the matter, and that they had scarcely appeared when Billroth furnished his comments in the shape of an article which was published in the "Neue freie Presse." In that article Billroth denied the efficiency alike of the inoculations against rabies and those against anthrax in cattle and sheep, but Pasteur intimates that he depended for his data on the Berlin school, the views of which have undergone a change on further examination of the facts. Figures are then given showing the rate of mortality from anthrax in inoculated sheep during each of the last five years to have been respectively 1·08, 0·77, 0·97, 0·90, and 0·75 per cent., that of sheep not inoculated being 10 per cent.; and in inoculated cattle, 0·35, 0·35, 0·37, 0·50, and 0·28 per cent., that of cattle not inoculated being 5 per cent.

Having disposed of this side-issue, Pasteur turns his attention to von Frisch, to whom, he says, he had spoken of certain unpublished experiments of his own bearing upon the possibility of inoculating dogs with rabies after their intra-cranial inoculation with the virus of casual rabies; and had attributed prime importance to those experiments, on account of the confidence which they must inspire as to the efficiency of his method of preventing rabies, for no bite, he remarks, can be compared, as to the gravity of its consequences, to the insertion of the virus on the surface of the brain, as the latter always gives rise to the disease. Inoculation under such circumstances would furnish irrefragable proof of the virtue of his method for the prevention of rabies. To his surprise, however, von Frisch, he found, had put forth this idea as having originated with himself. Pasteur's statement on this point is strengthened by his adding that at the same time he had made a similar suggestion to Sanderson and Horsley, of the English commission, and it is confirmed beyond doubt by his citing this passage from a report made to the Medical Society of Odessa in June, 1886: "M. Pasteur has proved that in some cases it is possible to prevent rabies even after inoculation by trephining." But Pasteur says that he would not have insisted upon this matter of priority had not von Frisch invested the test with extraordinary importance, holding it up as the only one capable of serving as the basis for a decision as to the efficiency of the prophylactic method. This Pasteur now declares it is not, but only a proof *a fortiori*, a sort of experimental *tour de force*. It is true, however, that Bardach, who reported ten successes in fifteen trials at Odessa, confirmed the exactness of Pasteur's results.

MINOR PARAGRAPHS.

A SIN OF OMISSION.

Brevity is the soul of wit, no doubt, but we have little patience with that parsimony in the use of words which transfers the labor-saving devices of the note-book to publications intended for readers to comprehend. The offence has become so common that it is tolerated in clinical reports, but surely we have a right to look for complete expressions in the title of an article, at least; yet a contributor to the "Zeitschrift für Geburtshilfe und Gynäkologie" entitles his communication "Die Diagnose des beginnenden Carcinoms der Portio," without taking the trouble to specify what portio he means. To be sure, his meaning is apparent enough from the article, but, so far as one can learn from the title, he might refer to the portio mollis or the portio dura. If such an extreme curtailment of expressions is due to anything else than laziness, we know not what it can be. The "Dublin Journal of Medical Science" seems to be of our way of thinking, for in a society report it adds to the heading "Congenital Defect in the Ventricular Septum" the word "(Cordis)."

THE INSTRUMENTAL EXPRESSION OF RETAINED PORTIONS OF OVUM.

In the last number of the "Maryland Medical Journal," Dr. William P. Chunn, of Baltimore, tells how he was accidentally led to learn the value of instrumental compression of the uterus in squeezing out the remnants of an ovum in cases of abortion. In the case of which he gives the history, there were indications calling for the evacuation of the uterus, and the organ was in a state of anteversion. For the purpose of correcting the displacement, in order to bring the face of the cervix into view, pressure was made upon the body of the uterus, through the anterior vaginal wall, by means of Nott's modification of Sims's depressor, and it was found that this pressure forced the organ back against the sacrum and then acted to express the retained mass. Thus the dangers of intra-uterine manipulation were avoided.

THE CHARITY HOSPITAL OF NEW ORLEANS.

It seems to us that Dr. Joseph Jones has added materially to his many services to the profession and the community by introducing at the recent meeting of the Louisiana State Medical Society, and forcibly arguing in favor of their adoption, certain resolutions calling upon the Legislature to repeal the law of 1885 excluding all medical students from competition for the position of resident students of the Charity Hospital, except natives and residents of Louisiana. It would be difficult to conceive of a narrower-minded policy than that which is embodied in the law referred to, and unquestionably, as was remarked by Dr. Jones, it is quite at variance with the broad spirit of the people of Louisiana. It is to be hoped that the Legislature will be influenced by this formal and deliberate expression of opinion by the society.

THE NEW CITY HEALTH COMMISSIONER.

It is our conviction that a better appointment could not have been made than that of Dr. Joseph D. Bryant to succeed the late Dr. Johnson. On several occasions we have spoken in commendation of Dr. Bryant's services as surgeon-general of the State, and it is not to be doubted that the same qualities that so eminently fit him for that position will guide his action as a commissioner on the board of health.

SUMMUM JUS SUMMA INJURIA.

That this old saying too often applies will hardly be denied by those who have had much to do with the law. It is suggested by the "Province médicale" as applicable to a case that lately came to trial in France. It seems that at a meeting of one of the Paris medical societies a written communication was presented in which the writer, who used a secret remedy for consumption, charged a physician of Lyons with having stolen a bottle of his nostrum from him and submitted it to analysis. The document was handed to the secretary and found its way into the report of the meeting that was published in one of the Paris journals. The Lyons gentleman, thus finding himself publicly branded as a thief, brought suit against the secret-remedy man and the publisher of the journal in which the report appeared. But the magistrate ruled that the author of the injurious statement could not be punished, inasmuch as he had not signed the paper, although he admitted having presented it. It would be interesting to know the magistrate's conception of the reason that led the defamer to hand the paper to the secretary of the society.

THE DURATION OF MENSTRUAL LIFE.

A few years ago, Dr. Fordyce Barker stated it as the result of his observation that, contrary to the common impression, the menopause was apt to occur early in women who had not menstruated for the first time until they had passed the usual age for the beginning of the menstrual function, and *vice versa*. This view was recently supported to a certain extent by Dr. Rouvier, professor of gynæcology at Beyrout, in a memoir on "Menstruation in the Women of Syria," presented to the Paris *Société de médecine*, brief mention of which we find in the "Union médicale." Dr. Rouvier has found that, when menstruation begins unusually early, the menopause occurs neither earlier nor later than in the generality of women.

THE BOSTON MEDICAL LIBRARY ASSOCIATION.

We take it that a library organization that finds itself pressed for shelf-room is more to be congratulated than condoled with, especially if its lot is cast in Boston, for the people of the New England metropolis are not wont to let the grass grow under their feet when the resources of a deserving institution need strengthening, and certainly they will not do so in this instance, for the cramped state of the library, as stated in one of the reports read before the last annual meeting, is in great measure due to the growth of the business done in the Directory for Nurses, the management of which it would be a pity to see separated from that of the library proper, with whose promoters the idea originated, and which is of personal importance to every well-to-do citizen of Boston and its environs.

A MAN WITH A HEAD OF DOG'S HAIR.

Newspaper versions of the wonders of surgery are not wholly confined to New York, as some of our contemporaries seem to imagine. A recent number of the "Evening Wisconsin" gives rather more than a column of details about the case of a young man from New York who, having lost the greater part of his scalp in consequence of an accident with sulphuric acid, profited by the skill and ingenuity of a surgeon who transplanted to his head portions of the skin of two dogs, hair and all. We are glad to learn that the doctor was "paid enough for his work to keep him from want the rest of his life." Thirteen separate transplantations are said to have been performed, all but two of which were successful.

"MEDICAL CLASSICS."

This is the title of a new bi monthly periodical published in New York, the first number of which has reached us. It contains the Hippocratic oath in Greek, a number of passages from the "Iliad," and several disquisitions by the masters in medicine of bygone times. There are also brief and sprightly comments on current events, and we notice a commendatory allusion to our own journal, for which we have to thank the editor of our young contemporary. It is clear that the musty productions of the past can be so presented as to form entertaining reading matter.

THE GROSS MEDICAL COLLEGE.

We have received the announcement of the first session of this institution, being the medical department of the Rocky Mountain University, of Denver, Colorado. The organization seems to be quite up to the standard of American medical colleges, and a three years' graded course is urged upon the students. Mention is made of the well-known advantages of Denver as a health resort as commending it to students whom ill health has compelled to give up their studies elsewhere. We see no reason why the new college should not at once enter upon a career of usefulness and prosperity, and we are glad to see that the memory of the late Professor Gross, a remarkably good likeness of whom adorns the cover of the announcement, is to be perpetuated in connection with so promising an undertaking.

ENGLISH AS SHE IS WROTE.

It is not uncommon to meet with very peculiar English in French publications, but it is seldom that we come across so droll an example as the following concluding sentence of an article in one of our Paris contemporaries, on the mercurial treatment of diphtheria: "Selon l'expression d'un écrivain américain, elle n'est plus alors qu'un vulgaire procédé d'embaumement (*the proceding for embalm the body*)!"

RHYMES AND A STORY BY MEDICAL MEN.

Two pleasing specimens of non-scientific writing by members of our craft have lately come to our notice. One of them, in the form of a dainty little pamphlet published in Louisville, is entitled "Medicine and Medicine-Men." It formed the anniversary address delivered before the Louisville Medical Society, toward the close of May, by Dr. John Godfrey, of the Marine Hospital Service. Pathos and humor are so judiciously mingled in its rhymes as to make us hope that its clever author will not rest content with this single exhibition of his literary powers. The other piece is the opening article of the July number of the "Harvard Monthly," a dramatic account of "Dan. Miller's Death," by Dr. Frank Donaldson, Jr., of Baltimore, a gentleman whose compositions we have already noticed favorably. It seems to us that the insight which medical men get into the characteristics of their fellow-men ought oftener to find expression in a form fitted for popular reading.

THE FRENCH EPIDEMIC OF SUETTE MILIAIRE.

The *suette miliaire*, *sudor anglicus*, or *sweating sickness*, which raged in England during the fifteenth and sixteenth centuries, and afterward figured only now and then and in a very mild form, seems lately to have taken on something of its old-time malignity in the French department of the Vienne and the adjacent departments of the Haute-Vienne, the Charente, and the Indre. What appears to be a novel feature of the outbreak is that in many cases the initial symptoms are those of measles, and the "Gazette hebdomadaire de médecine et de chirurgie" states that, in one locality, the children are attacked with measles, while persons over fifteen years of age are taken with the suette. At the time the account was prepared there had been five or six thousand cases, and the general mortality had been a fraction over nine per cent., but in certain localities the proportion of deaths had been greatly in excess of this rate, instances being given in which almost all the members of large families had fallen victims to the disease.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 5, 1887:

DISEASES.	Week ending June 28.		Week ending July 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	5	6	4
Scarlet fever	58	12	27	9
Cerebro-spinal meningitis	4	3	1	1
Measles	30	5	19	3
Diphtheria	124	53	107	48
Small-pox	1	1	4	0

The Medical Society of the County of Clinton, N. Y., will hold its semi-annual meeting on Tuesday, the 12th inst. For the same day an excursion to Maquam Bay has been arranged, to which all physicians are invited, together with their families and friends. The steamer will leave the Plattsburgh pier at 11.30 A. M., and dinner will be served at the hotel at Maquam at 1.30 P. M. After a cruise about the lake, the steamer will reach Plattsburgh at 7 P. M., in time for the outgoing evening trains. Tickets for the excursion and for the dinner, at 50 cents each, may be obtained on board the steamer.

The Health of Boston.—During the week ending Saturday, July 2d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 10 cases and 4 deaths; scarlet fever, 11 cases and 1 death; typhoid fever, 11 cases and 1 death; measles, 86 cases and 8 deaths. There were also 29 deaths from consumption, 3 from pneumonia, 4 from whooping-cough, 14 from heart disease, and 3 from bronchitis. The total number of deaths was 173, against 165 in the corresponding week last year.

Society Meetings for the Coming Week:

Monday, *July 11th:* New York Ophthalmological Society (private); New York Medico-historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston: Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *July 12th:* Medical Societies of the Counties of Chautauqua (annual), Clinton (semi-annual — Plattsburg), Greene (quarterly), Jefferson (semi-annual — Watertown), Madison (annual), Oneida (annual—Utica), Ontario (annual —Canandaigua), Schuyler (semi-annual), Tioga (semi-annual —Owego), and Wayne (annual), N. Y.; Norfolk, Mass., District Medical Society (Hyde Park); Newark, N. J., and Trenton (private), N. J., Medical Associations.

Wednesday, *July 13th:* Medical Society of the County of Albany, N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Franklin, Mass. (quarterly—Greenfield), Hampshire, Mass. (quarterly—Northampton), and Worcester, Mass., District (Worcester) Medical Societies.

Thursday, *July 14th:* Medical Societies of the Counties of Cayuga and Fulton (semi-annual), N. Y.

Saturday, *July 16th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of June 22, 1887.

Dr. H. Augustus Wilson in the Chair.

(*Continued from page 20.*)

Cystic Enlargement of the Vulvo-vaginal Gland.—Dr. B. F. Baer read a paper on this subject. The case was specially interesting because of the size of the tumor and of a mistaken diagnosis which had been made.

The patient, thirty-six years of age, married, but sterile, presented herself at the Polyclinic, and stated that she had "a rupture which would not go back," although she had been kept upon her back as long as two days at a time, and had been bandaged and compressed until she could no longer endure the suffering. Truss after truss had also been adjusted, but all to no purpose. On inquiry, it was learned that, about one year before coming under observation, she noticed a small lump near the posterior commissure of the vulva, corresponding with the location of the vulvo-vaginal gland. It was painless, and gradually increased from below upward. At the time she presented herself it was as large as a duck's egg. During the first nine months of its presence it produced no symptoms, except slight inconvenience from the swelling, but about three months before coming under the speaker's notice it began to occasion difficulty on account of its size and the friction produced in walking, and from a most interesting symptom—namely, obstruction to the flow of urine. During the act of micturition the urine would flow regularly for a short time, and then it would suddenly cease, to be followed by great pain. By an effort she could again start the flow, and then it would again abruptly stop. During the last few months the tumor had so increased in size as to approach the symphysis pubis. On examination, he found an elastic tumor making compression upon the urethra, and the mechanical interference was at once explained. When the bladder became full, the effort to empty the organ overcame the obstruction from pressure of the mass for a time, but, as soon as the straining ceased, the urethra would be suddenly closed again by the tumor. It required considerable force to displace the tumor so as to see the urethra. The tumor was not tender on pressure, and there were no signs of inflammatory action about it. There was marked fluctuation, and its size was not affected when the patient was in the recumbent posture. The inguinal canal was empty, and there was nothing in the shape or character of the tumor which would indicate that it contained intestine. The diagnosis lay between hernia and hydrocele of the labium majus, both exceedingly rare, and abscess or cystic enlargement of the vulvo-vaginal gland, although the tumor was much larger than any he had ever seen from the latter cause. He advised its removal by extirpation, because his previous experience in the treatment of this disease had taught him that radical measures were necessary. The patient entered the hospital, and an incision was made at the lower and inner surface of the tumor, the intention being to try to enucleate it entire. But the cyst was ruptured by the effort, and a yellowish fluid escaped of the consistence of thick cream, but without odor. He next passed his finger within the collapsed sac, and found that it occupied a very extended surface—from the upper portion of the labium down to the ischio-rectal space. The secreting surface or membrane was very thick. It was not likely, therefore, that any thing short of removal of the gland would effect a permanent cure.

This had been his experience with these cases, as he had said. But hæmorrhage was sometimes great, and this had caused most authors to advise simply evacuation of the fluid, and injection or packing with iodine, or some other agent, to destroy the surface. It would be remembered that the gland was in close relation with the transverse perineal artery below, and with the bulb of the vestibule at its upper extremity. When, however, the organ was diseased and hypertrophied, the blood-vessels became greatly enlarged, as during pregnancy, making this locality much more vascular. Then the gland, as the result of its increased size, extended much farther up, and became surrounded by the network of veins called the bulb of the vestibule, and there was closer contact with the vessels at the lower surface of the gland.

In pursuance of his original plan, he endeavored to separate the sac from its close attachments with the handle of the scalpel; but this he was unable to do, and was compelled to dissect it out with the edge of the knife. The extent of surface was much greater than he had anticipated, even, and the hæmorrhage very considerable; that from the arteries was controlled by ligation, but he found great difficulty in checking the venous. Hot water and compression failed, and he was finally compelled to pack the cavity with pledgets of cotton saturated with Monsel's iron, and supplement this with pressure supplied by a vaginal tampon and with a compress held in position by means of a T-bandage. The dressing was permitted to remain in position twenty-four hours (there being no untoward symptoms), when the bandage and compress were removed. He now ordered the constant application of lead-water and laudanum, which gave great comfort, as the parts were hot and somewhat swollen. Very little pain was complained of, however. The next day a part of the packing was removed, and a little more each day after—as much as came away easily. Irrigation with carbolized water every four hours, and the constant application of the lead-water and laudanum, constituted the after-treatment. At the end of a week the last pledget of packing came away, and in another week the patient left the hospital, the wound having almost entirely healed. He was much gratified with the rapid recovery, for he had feared that there might be extensive sloughing and granulation. The operation occurred some months ago. The patient was entirely cured.

In simple retention cysts he had succeeded in curing the case by incision and packing. In abscess of this gland, treatment of that kind would usually be sufficient. In the present case he did not know the cause. A common cause was injury from coition or from childbirth, the former most commonly. It sometimes occurred as a result of the first coition. There was no doubt that some cases had a gonorrhœal origin, but he did not believe that this cause was so common as was often stated.

Dr. J. M. Da Costa remembered distinctly two or three cases seen within a few months. In one case a large quantity of fluid was removed. Another case was one of chronic inflammation in the left labium. He opened it and treated it in the ordinary way, but it rapidly returned. He then thought of dissecting it out, but, fearing just what Dr. Baer had met with, tried another method of treatment, which had succeeded well in some cases. After emptying the cyst, he scraped the inside with a curette; then, with a swab, applied a strong preparation of iodine, consisting of pure iodine with iodide of potassium dissolved in glycerin. He next took two or three deep sutures, bringing the walls in close contact, and in that way succeeded in obliterating the whole sac.

Dr. J. B. Deaver said that, with regard to the causation of these tumors of the vulvo-vaginal gland, his experience was not in accord with that of Dr. Baer. He had not found injury a common cause. The majority of cases which he had seen had apparently arisen without any special cause. He could not understand the difficulty experienced in the arrest of the hæmorrhage. He would simply pack the sac, and stitch the edges of the wound over it.

Dr. W. S. Stewart had had some experience in operating in these cases. He did not use a general anæsthetic, but preferred to employ cocaine solution. He found that cocaine, in from a five- to a ten-per-cent. solution, had an astringent effect. In a case in which he employed this in the removal of one of these glands he had expected hæmorrhage, for the arteries in this location were numerous, and the veins valveless. During the removal of the gland he had no difficulty in controlling the bleeding by applications of the solution. After the operation, the use of sutures brought the surfaces accurately together, and there was no subsequent hæmorrhage. In order to keep down inflammatory trouble, he made applications of phénol sodique.

Dr. Baer said that the arrest of hæmorrhage would not seem to be a difficult matter where the gland was of normal size, but, when the organ increased to a large size, the vessels became much larger. If Dr. Deaver had seen the efforts which he had made to check the hæmorrhage by pressure, he thought he would have agreed with him that it was difficult to control. Cocaine would not have arrested the bleeding, for it did not come from the incision, but from the vessels beneath the tumor.

Book Notices.

Transactions of the American Gynæcological Society. Vol. XI, for the Year 1886. New York: D. Appleton & Co., 1887. Pp. 8–13 to 516. [Price, $5.]

This volume compares favorably with its predecessors, and indicates that a wholesome change has come over our gynæcological work; instead of inventing new operations, our foremost men in that department are now occupying themselves largely with reviewing what has been done in the past, and endeavoring to substitute system for the somewhat chaotic magnificence of a few years ago. Noteworthy examples are Dr. H. P. C. Wilson's paper, Dr. Emmet's, Dr. Engelmann's, and Dr. Dudley's. Dr. Wilson advocates posterior division of the cervix uteri for anteflexion with dysmenorrhœa and sterility. The operation has fallen into disfavor, and, although we think it deserved its fate, it is but right that it should have the benefit of whatever any judicious surgeon—and that Dr. Wilson certainly is—can say in its favor. Dr. Emmet's paper is a renewed expression of his views on pelvic inflammation, and the amount of thought which he has bestowed upon the subject ought to urge on others to study it more attentively, to the end that something approaching unanimity may be reached concerning it. It is by far the most important matter in gynæcology, and needs all the light that can be shed on it. Dr. Busey's remarks strike us as more suggestive than anything else that was said in the discussion. The substance of them was that, in studying pelvic inflammation, we should not overlook the histological anatomy of the peritonæum and the cellular tissue, "the former being a vast chambered lymphatic sac, and the latter an enormously dilated lymphatic sac."

One of the most important questions of the day in gynæcological therapeutics concerns the application of electricity, and this was treated by Dr. Engelmann in the most exhaustive of all the papers that were presented. We do not know how much it was abbreviated when read, but it did not excite the discussion and comment which it deserved. It shows a clear understanding of a complicated subject and is well worthy of study and reference. The paper on the intra-peritoneal elastic ligature, its use in laparo-myomotomy and laparo-hysterectomy, by Dr. Dudley, was also a suggestive and excellent one upon a practical question, which must soon be decided—one way or the other. The foregoing impressed us as the salient points of this volume, but it abounds in other meritorious features.

Practical Lessons in Nursing. The Nursing and Care of the Nervous and the Insane. By Charles K. Mills, M. D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 8–9 to 147. [Price, $1.]

This little book contains much information which can not fail to be appreciated by those who are interested in the care of the insane. In Chapter I the qualities of a good nurse for nervous patients, the general management of hysteria, the forms of insensibility, and the alcohol, opium, and other narcotic habits are discussed at some length. Chapter II is devoted to the consideration of massage, "movements," "muscle-beaters," and other practical subjects. The various forms of electrical appliances are discussed in Chapter III; and in the last chapter the nursing and care of the insane receive attention. To our own mind this is the least hackneyed and altogether the most useful chapter in the book. The style of the author is good, and his excellent descriptions are enhanced in value by the numerous illustrations distributed throughout the book.

Elements of Physiological Psychology: a Treatise of the Activities and Nature of the Mind, from the Physical and Experimental Point of View. By George T. Ladd, Professor of Physiology in Yale University. New York: Charles Scribner's Sons, 1887. Pp. xii–696. [Price, $4.50.]

We think that this is the first attempt which has been made in the English language to lay before the general reader a *résumé* of the latest views of the anatomy of the nervous system so far as they relate to mental phenomena. A number of monographs on the different subdivisions of the subject are now before the public, but many of them are not easily attainable or are in languages incomprehensible to many readers. The work is divided into three heads, "The Nervous Mechanism," "The Correlation of the Nervous Mechanism and the Mind," and "The Nature of the Mind." In the first and second divisions a sketch is given of the gross and minute anatomy of the nervous system and of its physiology, in language easily understood by the average lay reader; and disputed points are omitted altogether or accepted only provisionally. For those who are interested in psychology and who wish to gain a superficial knowledge of the agents through which the mind communicates with the external world, this portion of the work will undoubtedly prove useful. Of the metaphysical portion of the work we do not care to speak, as it lies beyond the field of this journal. We will say, however, that in our opinion the author has committed a grave error in not entering fully into a discussion of comparative psychology—an error which weakens the force of his arguments very greatly. Many of the cuts are very poorly executed and the index is inadequate, but both these shortcomings can be remedied in future editions.

A Treatise on the Practice of Medicine, for the use of Students and Practitioners of Medicine. By Roberts Bartholow, M. A., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Sixth Edition, Revised and Enlarged. New York: D. Appleton & Co., 1886. Pp. xxvi–990. [Price, $5.]

A new edition of Professor Bartholow's treatise having been called for every year since its first appearance, it may be said to have taken a firm hold upon the profession. The fact is primarily due to the author's happy faculty of bringing out clearly and prominently the precise points about which the average practitioner desires unmistakable statements from an authoritative source; and it is also an ample justification of the plan on which the work was originally constructed, that of making it an integral portion of a complete work on practical medicine. There is much new matter in this edition, and the whole work has been revised with evident care. It is eminently not a mere book for occasional reference, but one that the practitioner will keep within easy reach and consult continually. That it is likely to hold this position for many years to come can not be doubted.

Cyclopædia of Obstetrics and Gynæcology. Vols. I, II, III, and IV: A Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the Supervision of, and with Notes and Additions by, Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. x–509 (267 wood engravings and 4 colored plates): ii–381 (45 wood engravings and 2 colored plates); ii–348 (248 wood engravings); ii–404 (191 wood engravings and 1 colored plate).

These four volumes, forming the opening members of a series by various authors, are a translation of M. Charpentier's very comprehensive treatise. The respective sub-titles of the volumes are: "Anatomy of the Internal and External Genitals, Menstruation and Fecundation, Pregnancy and Labor"; "The Pathology of Pregnancy"; "The Pathology of Labor, the Uses of Ergot"; and "Obstetric Operations, the Pathology of the Puerperium." The translation is clear, but in many places inelegant. The editor's notes are numerous, and as a rule they are to the point and inculcate sound practice. The external appearance of the volumes is attractive, and the print is pleasant to the eye. Most of the woodcuts are suggestive of hasty printing, but they answer the purpose reasonably well. Some of the colored plates are quite meritorious.

So far as we know, Charpentier's excellent treatise has not before been translated into English, and the purchasers of this cyclopædia are to be congratulated on the fact that it forms a portion of the work.

Éléments de pathologie chirurgicale générale. Par F. Terrier, professeur agrégé à la Faculté de médecine de Paris, chirurgien des hôpitaux, etc. Deuxième fascicule, Complications des lésions traumatiques. Lésions inflammatoires. Paris: Felix Alcan, 1887. Pp. 409 to 672. [Prix, 6 francs.]

In this fasciculus of the "Elements of Surgical Pathology" the author devotes a short chapter to traumatic neuralgia, and then considers the series of affections covered by the titles traumatic inflammation, traumatic fever, surgical septicæmia, purulent infection, traumatic erysipelas, hospital gangrene, and traumatic tetanus. All of these subjects are carefully and thoroughly treated of, and a well-selected bibliography of each is appended for the use of those who wish to carry their study further. The third part of the work is devoted to inflammatory lesions in general—abscess, fistula, foreign bodies, ulcers, and gangrene; and the fasciculus ends with a short chapter on the pathology of cicatrices. From this brief enumeration the general character of the book can be seen. What it will be when completed can not yet be judged, but the articles in the present volume are well worth careful study, and the book as a whole promises well for the author's effort to bring all the subjects considered fully up to date.

The Hygiene of the Vocal Organs. A Practical Hand-book for Singers and Speakers. By Morell Mackenzie, M. D., London, Consulting Physician to the Hospital for Diseases of the Throat, etc. London and New York: Macmillan & Co., 1886. Pp. xii–223. [Price, $1.50.]

This work, from the pen of the best-known living author upon matters pertaining to the throat, will be read with interest by all concerned in the cultivation and care of the human voice. The author has written from the standpoint of the practical physician, and, while avoiding unnecessary technical detail, has endeavored with success to make the book a really useful guide. The field which he has chosen is one which, at present, is so replete with disputed points that the views here advanced can not fail to be studied with unusual attention, and their value fully appreciated. It should be a subject for congratulation to us, however, that through the labors of one of our own countrymen in the perfection of the art of photographing the larynx, and through the clear and positive knowledge of the physiology of the voice which is sure to be its outcome, it will not be long before matters now at issue will be definitely settled, and thus the work of the student greatly simplified.

A Manual of Minor Surgery and Bandaging for the Use of House-Surgeons, Dressers, and Junior Practitioners. By Christopher Heath, F. R. C. S., Surgeon to University College Hospital, London, etc. Eighth Edition. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xvi–1 to 360. [Price, $2.]

We note with pleasure that the merits of this little manual have prolonged its life for over a quarter of a century, and can see no reason why it should not live for ever, as it is one of the most useful works upon the subject before the profession.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—C. Féré, "Sensations et mouvements." (2*fr.* 50.)

J. B. Baillière & fils, Paris.—T. A. Emmet, "La pratique des maladies des femmes." Transl. by A. Olivier, preface by M. Trélat. (15*fr.*) —— J. Cyr, "Traité pratique des maladies du foie." (12*fr.*) —— O. Jennings, "Sur un nouveau mode de traitement de la morphinomanie." (1*fr.* 50.) —— A. Cullerre, "Nervosisme et névroses, hygiène des énervés et des névropathes." (3*fr.* 50.)

O. Berthier, Paris.—A. Veillard, "Formulaire clinique et thérapeutique pour les maladies des enfants." (4*fr.*)

A. Coccoz, Paris.—Dubuc, "De l'utilité, des doses, du mode d'emploi de la cocaïne dans l'opération de la lithotritie." (0*fr.* 75.)

O. Doin, Paris.—A. Brissay and J. A. Doléris, "Fragments de chirurgie et de gynécologie opératoire contemporaines." (7*fr.*) —— J. R. Le Clerc, "L'angine de poitrine hystérique." (3*fr.*) —— E. Toussaint, "Hygiène de l'enfant en nourrice et au sevrage." (1*fr.* 50.) —— L. Danion, "Traitement des affections articulaires par l'électricité, leur pathogénie." (5*fr.*) —— R. Lefour, "De la constriction métallique appliquée à la rachiotomie." (3*fr.* 50.) —— E. Callamand, "Du rôle de l'eau dans la nutrition." (3*fr.*)

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Cataract Produced by Sounds or Noises.—Stein ("Ctrbl. f. prakt. Augenh.") has been experimenting upon guinea-pigs with a view to the production of opacities in the lens by the repetition of sudden and continuous sounds. The eyes were previously examined carefully, and then the animals were placed in a box on which an electrical tuning-fork was fastened. Here they were kept for a few days without the fork being caused to sound. The first experiment was made on a guinea-pig, two days old, with a tuning-fork D, with 100 vibrations. At first the animal was unruly and cried. After three or four hours the pupil became widely dilated, and after twelve hours there was seen a stellate figure on the posterior surface of the lens, near the equator, which in the next twenty-four hours gradually extended through the lens. Then the opacity began to fade slowly, and finally disappeared entirely in four or five days. The second experiment was made on an animal three days old, and with a fork of 250 vibrations. After twenty-four hours a stellate opacity appeared on the anterior surface of the lens, and two days later a similar one on the posterior surface. These disappeared subsequently, as in the first case. The third experiment was on an animal five weeks old, with a fork of 100 vibrations. In forty-eight hours dense triangular opacities appeared at the equator, which disappeared in a week. The eyes, on being enucleated, showed an anterior stellate cataract, or a posterior stellate cataract, or a posterior cortical cataract, or a combination of all three forms.

Amblyopia following Quinine Poisoning.—Mellinger ("Klin. Mntsbl. f. Augenheilk.") reports a case of this kind in a woman, aged forty-two, who had been an inmate of an insane asylum for puerperal melancholia. Twenty days after parturition she became violently feverish and delirious, and took 225 grains of quinine in the course of twenty-four hours. Two days later the amblyopia set in and rapidly increased, and when she was admitted into the asylum, one month later, she could only count fingers at one foot. There was mydriasis in both eyes, and the vessels on the discs were much reduced in caliber, though there was no demonstrable discoloration of the papillæ. One month later the patient counted fingers at a distance of ten feet, but the discs were very pale and the vessels still smaller in caliber. Three months later vision had improved to $\frac{1}{10}$, but the blood-vessels on the discs were entirely empty, and the mydriasis remained. One year later the discs were still very white and dull-looking, and the vessels excessively reduced in caliber. Vision $= \frac{2}{7}$, unimproved. There was no interference with the color sense, but the visual fields were contracted above and below.

Transplantation of the Cornea.—Adamük (*ibid.*) regards the preservation of the neighboring portion of the sclera as the most important step in this operation, and he advises excising as much as two millimetres in width of the latter in connection with the cornea, in order to retain as many of the nutrient vessels as possible. In his experiments he first employed the cornea of the rat. The animal was killed, and, after carefully washing out the eye and the *cul-de-sac*, the conjunctiva was dissected up from the equator, the sutures were inserted, and the whole was then reflected over upon the cornea. The cornea and the neighboring sclera were then separated from the eyeball and spread out in a one-per-cent. solution of common salt. Here it remained while the eye of the patient was prepared for the transplantation. The cases chosen for this operation were those in which the entire cornea had been transformed into a dense leucoma. Before the trephine was used the conjunctiva was dissected up all round for a breadth of 2 or 3 mm., and the necessary sutures were introduced. The trephine was then applied and a piece of the opaque cornea removed. The rat's cornea was then immediately applied in such manner that the sutures were placed opposite each other, and they were then immediately tied. A bandage was now applied, and this was not changed till the third day. Three cases were thus treated, but in all of them the transplanted cornea sloughed. Adamük then determined to resort to fowls' eyes. The operation was done in the same manner, except that the ossification of the sclera in the vicinity of the cornea in fowls' eyes required the removal of a larger width of sclera than was really necessary. Out of five cases operated upon in this manner three proved successful. In two or three weeks after the operation the disintegration and rejection of particles of ossified sclera were observed as an independent process. The transparency of the transplanted cornea remained intact in all three cases.

Paquelin's Cautery in Ophthalmic Surgery.—Galezowski ("Rec. d'ophthal.") recommends the use of Paquelin's cautery in the treatment of trichiasis and organic entropium, in sloughing ulcers of the cornea, in malignant tumors of the cornea, and in tumors of the sclera. In the case of trichiasis and entropium the treatment must be directed not only against the cutaneous and muscular tissues of the lids, but also against the tarsus, in order to restore its normal position. In these cases the tarsus is deformed and retracted inward, and for this defect Galezowski recommends the cauterization of the lid parallel to its margin—of all the deep tissues, including skin, muscular tissue, and tarsus. This cauterization causes a restoration of the normal position of the tarsus, and thus completely and permanently corrects the trichiasis and entropium. He regards this as the best method of treating these cases.

Bilateral Congenital Coloboma of the Lids and Iris.—Schiess-Gemuseus ("Klin. Mntsbl. f. Augenh.") reports a very interesting case of this kind in a male child aged seven weeks. No similar anomaly had ever been observed in any branch of the family. In the upper lid of each eye there was a coloboma which extended from the punctum lacrymale to the middle of the edge of the lid. On the right side there was a dacryocystitis, with a moderate amount of purulent secretion. The cornea of the right eye was small and horizontally oval, and on the nasal margin was a small tumor, as large as the lens, reddish-white in color, which extended over upon the cornea. On the superior corneal margin there was a similar smaller growth. The coloboma of the iris was in the supero-nasal quadrant, and was complete. In the left eye there was a catarrhal conjunctivitis, with a coloboma of the upper lid of about the same extent as in the right eye. On the nasal margin of the cornea there was a similar globular tumor, extending over upon the cornea, pale-red in color, and on the upper margin of the cornea a similar smaller tumor. The cornea was cloudy throughout. All these four tumors were covered with epidermis. There was a dacryocystitis with profuse discharge on the left side also. The coloboma of the iris in the left eye was small and ill-defined, and the entire iris-tissue seemed to be drawn upward. In the field of the pupil were three small fibers extending upward from the lower pupillary margin. The lenses were transparent, the eyes were myopic, and there was no coloboma of the chorioid. The fundus of the left eye, owing to the cloudiness of the cornea, could not be seen. The normal margins of the lids were provided with cilia, but there were none on the edges of the colobomata, and the skin here passed directly into the mucous membrane. There was no upper lacrymal punctum visible in the left eye. The nose was deformed, both upper and lower portions being, with the vomer, thrust forward like a proboscis. The alæ of the nose showed deep fissures running from below and within, upward and outward. There was a bilateral fissure in the upper lip, also a broad fissure running the entire length of the hard palate.

The Treatment of Prolapse of the Iris occurring in Ulcer of the Cornea.—Gama Pinto (*ibid.*) believes it possible so to cut off a recently prolapsed iris that anterior synechiæ will be prevented. He is opposed to the use of iodoform as a dressing in these cases, as the crystals may mechanically prevent or retard the closure of the perforation. The larger the latter is, the slower is the healing, as well as the consolidation of the cicatrix. This, he thinks, may be facilitated and hastened by covering the hole in the cornea with some living tissue, and he has been employing for this purpose a conjunctival flap without a pedicle. He reports in detail three cases in which this method was successfully carried out, and with most satisfactory results. The resulting opacity is much smaller than the leucoma which results from the ordinary method of treatment.

The Operative Treatment of Basedow's Disease.—Bobone ("Ann. d'oculist.") calls attention to the case, reported by Dr. Hack, of Freiburg, of a young girl who had bilateral exophthalmic goître, with hypertrophy of the mucous membrane of the middle and inferior turbinated bones. Cauterization of the right nasal cavity caused a disappearance of the exophthalmia of the right side, and the same occurred on the left side, when the left nasal cavity was cauterized. After repeated cauterizations there was a progressive disappearance of the cardiac phenomena, with a diminution in the volume of the thyreoid body. Bobone reports a very similar case occurring at the clinic of Dr. Chiari in Vienna. In explaining these cases he believes that the chronic affection of the nasal cavities kept up a permanent irritation of the ends of the sympathetic nerve in the nasal mucous membrane. Hence, in all cases of exophthalmic goître the nose should be carefully examined.

The Relations between the Curvature of the Cornea, the Circumference of the Head, and the Stature.—Bourgeois and Tscherning's examinations (*ibid.*) were made by measuring the stature by the regulation fathom. Then the circumference of the head was measured by placing a metrical leather band at the level of the external occipital protuberance and bringing it round in front just above the eyebrows. Then the visual acuity was measured without glasses, and all cases were noted in which this was less than $\frac{5}{5}$. Finally, the radius of curvature of the cornea and the corneal astigmatism were measured by means of the ophthalmometer of Javal and Schiötz. Among other interesting observations they found that there was but little difference in the curvature of the two corneæ in the same person. They concluded from their researches that in general the tallest men, and especially those with large heads, had the longest radii of curvature of the cornea. This influence is, however, weak, for the variation of the mean of the corneal radius for different degrees of stature is much less than the variations which may be found among men of the same stature or of the same size of head. The exactness with which the refractive power of the ocular media agrees, in the great majority of cases, with the length of the axis of the eye merits attention. It is probable that an almost constant relation exists between the radius of the cornea and the axis of the eye.

Case of Supposed Quinine Amaurosis.—Browne ("Ophth. Rev.") reports a case of this kind in a man, aged thirty-four, who had had syphilis two years before, but he had been carefully treated and was perfectly temperate and in good health. While in China, in January, 1886, he had a severe rigor followed by pneumonia. He was said to have taken quinine in doses of thirty grains every two hours, and thought he had taken one hundred and twenty grains, when he suddenly became very deaf, a "flickering" came before his eyes, and then he suddenly became completely blind. His pupils became at this time widely dilated. At the end of six weeks he began to perceive bright sunlight, and central vision rapidly returned. Three months and a half after his loss of sight, vision in the right eye was $\frac{20}{20}$ and in the left eye $\frac{20}{30}$. Central color vision was perfect, but the field for white was very contracted. The optic discs were very pale, and the vessels extremely small and contracted. The hearing was perfect.

Hydatid Cysts of the Orbit, Brain, etc., with Unilateral Optic Neuritis.—Brailey (*ibid.*) reports an interesting case of this nature in a female child, aged two years, who was perfectly well till fourteen weeks before her death. Then the left eyelids did not close properly during sleep, and she used to wake screaming. Eight weeks later she was admitted into Guy's Hospital. The left eye protruded downward and forward, the lids were reddened and slightly swollen, and the lateral movements of the eye were extremely limited. The optic disc was swollen and ill-defined, and the veins were large, dark, and tortuous. The liver had an irregular, nodulated surface, the nodules varying in size from that of a pea to that of a walnut. Eight days later the child had a series of convulsions, and the breathing became very irregular. Nine days later the convulsions returned, beginning on the left side, but were shortly transferred to the right side. The right eye was turned to the left and the pupil was widely dilated. The left eye was much congested and the protrusion was increased. The child died twelve hours later. The autopsy showed a cyst, of the size of a large walnut, in the upper part of the left orbit, within the superior rectus muscle, implicating it from near its origin up to its tendinous insertion. The muscular fibers expanded on the posterior part of the cyst, but farther forward all trace of them was lost, except on the extreme inner side, where they were continued as an attenuated layer up to the tendinous insertion. Cysts were found in the liver, lungs, spleen, right kidney, and left ovary, and a large one was imbedded in the posterior superior part of the right cerebrum, in the region of the angular gyrus.

Miscellany.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Molluscum Fibrosum and Keloid.—In a very valuable article entitled "A Further Contribution to the Study of Molluscum Fibrosum; Ætiology; Fibromatous Infiltration and its Relation to Keloid," by Dr. R. W. Taylor, surgeon to the Charity Hospital ("Jour. of Cutaneous and Genito-urinary Diseases"), the author says: "While most authors are silent, others state the cause as unknown. Others, again, speak vaguely of scrofula and heredity, of a dyscrasia, or of a diathesis as being the underlying cause. Hebra says that, in his experience, subjects to this form of growth are mentally and physically below par, to which Hardy replies that his opinion is not at all in accord with that view. I myself have seen the affection in healthy persons with fair average intelligence. Schwimmer ('Handbuch der Hautkrankheiten,' Ziemssen) speaks of local irritation as the cause, and casually alludes to a case in which it followed a wound. The clear history of my cases proves the truth of this remark. I think, therefore, that we are now warranted in making the statement that *localized molluscum fibrosum may have its origin in traumatic causes.* The evidence presented by my cases warrants the opinion that the wounds causing these tumors must be of such severity as to damage the subcutaneous connective-tissue layers.

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"Besides keloid, there is a rare form of connective-tissue infiltration of the skin which presents clearly marked characters. It consists of a more or less diffuse patch of skin thickened in its entirety, and seemingly without involvement of the subcutaneous tissue. To the eye it is of normal hue or perhaps slightly pinkish, not as deep, however, in color or as glossy as keloid. The surface is ridged, undulating, as if the condensation of the skin had thrown it into a mass of slight waves. At the periphery of the patch, which is of more recent origin, the tendency to slight elevation is greater than in its center; in no place, however, is the salience peculiar to keloid to be observed. The patches are sharply marginated, and they grow chiefly in their longitudinal direction from the whole margin, and there is nothing to be observed in their increase akin to the claw-like processes of keloid. In point of slowness of growth these fibromatous patches resemble keloid; but they differ from that affection in never undergoing spontaneous involution, which is somewhat infrequently observed in keloid. While keloid is frequently the seat of pain and hyperæsthesia, these patches seem to be indolent and painless, though Mr. Hutchinson says that the patches upon the girl were occasionally the seat of pain and itching. In my case there was no disturbance of sensation. These fibromatous patches, like keloid, show no tendency to malignancy, nor do they, like morphœa and scleroderma, undergo contraction and throw the skin into ridges and folds. They seem to show a predilection to development in the regions most commonly the seat of keloid, the sternal and the supraclavicular. While in general keloid follows as a result of superficial wounds of the skin, such as scratches, burns and blisters, actual cautery and sunburn, and upon the scars of leech-bites, small-pox, acne, herpes zoster (Jackson), syphilitic ulcers, etc., the fibromatous patches result from deep-seated injury to the skin and subcutaneous connective tissue. Finally, unlike keloid, which upon extirpation almost invariably returns *in situ*, the observations of Mr. Hutchinson show that in the fibromatous tumors there is no tendency to recurrence after removal. This fact is of great importance in prognosis.

"My studies lead me to think that of all skin affections keloid is the one least likely to vary from the type form. Confusion exists in the minds of many regarding it, for the reason that under the term keloid every form of hypertrophic cicatrix is included. While there may be a histological similarity between the two forms of new growth, clinically they are distinct. In my judgment, the term keloid should be limited, as Alibert intended it should be, to the peculiar pinkish elevated patches of new growth, from the margins of which claw-like processes jut out, presenting the semblance of a crab. In hypertrophic cicatrices there is little or none of this tendency to claw-like outshoots, nor indeed to peripheral extension, though in color they may resemble more or less closely keloid. The division of this group, which I think most rational and borne out by clinical observation, is as follows: First, keloid in the limited sense indicated; second, hypertrophic cicatrices; and, third, patches of fibromatous infiltration."

Collapse following Strapping of the Testicles.—At a recent meeting of the South Indian Branch of the British Medical Association ("Indian Med. Gazette"), Dr. J. Smyth gave the following account of a case: The patient, a strong young soldier, was admitted into the Station Hospital, Madras. On examination, he was found to have two small hydroceles. The external rings were healthy. The left and larger hydrocele was of about the size of a hen's egg. It had been tapped some time ago and had now refilled. The right had not been tapped before. There was no pain. I now tapped the left tunic and ordered the testicle to be lightly strapped and supported. The next day the patient continued well. The strapping caused no discomfort. The bowels were regular and the appetite was good. The right tunic was tapped and strapped like the left.

The next morning at 7 A. M. the apothecary informed me that the patient with the hydrocele was suffering from symptoms of obstruction of the bowels. On examination, I found him in a state of collapse, able to speak only in whispers. He was very pale and bathed in cold sweat, which stood out in great beads on his face and saturated his bedding. The extremities were cold and the patient complained of numbness in the arms. He pointed out the hypogastric region as the seat of his distress. He did not complain of pain in the testicles. The pulse was small, frequent, and intermittent. The apothecary said he had grown much worse during the last half-hour. He said the patient had felt uneasy sensations in his abdomen at about 2 A. M., and gone to the latrine. The bowels acted well. But about 5 A. M., the pains continuing and increasing, he went again to the rear, and strained a great deal, but could pass nothing. Shortly afterward there was some nausea and the patient vomited. Nothing amiss was noticed as regards micturition.

Although the patient did not complain of pain in the testicles and there was no outward indication of local mischief, I resolved, as a preliminary measure, to give him a stimulant and to remove the strapping from the testicles at once.

When all the strapping, save the first encircling band, had been removed from the left testicle, the skin over it was found very red with just a perceptible purplish tinge near the band. On removing this strap the redness immediately disappeared, but a well-defined œdematous area remained. There was no pain. On the right side nothing abnormal was found. The strapping removed, the patient immediately began to recover, and in ten or fifteen minutes was quite well.

On the next day I noted: "The testicles remain unstrapped and free from pain. The tunics have almost refilled. The patient says he passes water more frequently than before he came to hospital. He is otherwise quite well."

From this case it would appear, said Dr. Smyth, that tight strapping of the testicles is exceedingly dangerous. I can not doubt that this patient would shortly have sunk had his testicles not been relieved. The sympathy that exists between the innervation of the testes and that of the intestines was very markedly shown. Probably the first abdominal symptoms were caused by the patient unconsciously compressing the strapped testicles during sleep. The act of defecation no doubt increased the congestion and tension in the testicles, and consequently, of course, the abdominal symptoms; these two conditions—the tension in the testicles and the irritation in the bowels exciting contractions of their walls—continuing to react on each other, ultimately brought about the condition of extreme collapse which was so characteristic a feature in the case.

The case clearly shows also that abnormal conditions of the testes may cause symptoms of a very alarming character, and out of all proportion to the local manifestations.

When acting resident medical officer in the General Hospital, I was accustomed to have testicles strapped in a manner somewhat different from that usually adopted, and which seemed particularly adapted to the pendulous scrotums so often met with in this country. After clipping off all the hair from the scrotum and pubes on the affected side and placing the patient on his back, I raised the scrotum so that the testicle gravitated toward the external ring. I then took a piece of strapping about twelve inches long and half an inch wide, and, beginning at the bottom of the scrotum, coiled the strapping around it from below upward, and from within forward and outward, till I reached the diseased organ. The patient then rose to his feet. The testicle was found to be firmly and comfortably supported, though it still descended a little. The strapping was now continued over the testicle till one coil or so had passed just above it. By this method the testicle was well supported and moderately compressed, and all risk of strangulation or congestion avoided. The cord also, which in these cases is usually greatly elongated, had an opportunity afforded it of regaining its tone, instead of being dragged upon and still further elongated, as is the case almost invariably when the ordinary method of strapping is adopted.

No chafing or irritation (by the strapping) of the "occluded" portion of the scrotum was ever noticed; sometimes a degree of shrinking seemed to have taken place, but of this I was never quite certain.

The Physiology of the Endometrium.—In a very interesting paper entitled "The Menstrual Organ," presented to the British Gynæcological Society by Dr. Arthur Johnstone, of Danville, Ky. ("Brit. Gynæc. Jour."), we find the following:

"In the ordinary acceptation of the term, the endometrium, above the internal os, is not a 'mucous membrane,' but belongs to the so-called 'adenoid' tissues, and menstruation is for it exactly what the lymph-stream is to the lymph-gland or the blood-current to the spleen.

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"The life-history of the uterine lining is analogous to that of the thymus gland. 'Tis true that this organ comes into the world in an active state, and that it is the first of the cytogenic tissues to finish its course and sink into aged obscurity; but it is equally certain that it is the type of the whole class. For, as we have long known of Peyer's patches, the tonsil, and the other lymphoid structures, sooner or later they all follow its example, and, like worked-out mines, ruin and decay alone mark the spot of their former activity.

"The quiet entrance of the endometrium and its persistent repose for the first thirteen years do not invalidate its claim to a place in the class. Is this gradual approach to maturity any more wonderful than that the hair-follicles, whose first products herald the approach of adult life, should have lain still so long? Has any one ever thought of questioning the history that the Greeks have for all time recorded of the thyreoid development? In their masterpieces we find that the Venus of Milo is a girl just budding into womanhood, with that slight, willowy throat that the scalpel now tells us is due to the rudimentary condition of the thyreoid gland. In the Venus Callipyge, however, who is a full-grown woman in the ripe maturity of her charms, we find a broad, full throat, in which a pronounced thyreoid is visible, thus proving that the most classic as well as most critical of people concurred with us in recognizing its development as one of the integral elements of adolescence. But the impetus that puberty gives to the lymphoid organs everywhere is too well known to need repetition here, and the first menstruation is only one result of the general process.

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"Bound firmly to the inner layers of the muscular wall, the human endometrium is perforated in every direction by the so-called glands, whose ramifications convert the whole into a sponge-like mass, all of whose channels lead into the cavity of the body. Its epithelial covering consists of a single layer which dips into every reduplication of the glandular canals, and thus gives a protecting coat to the soft protoplasmic tissue.

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"In the only two of the ruminants that I am familiar with I find that the cotyledons are composed of exactly the same tissue that lines the human uterus, and that sometimes a thin layer of it stretches from one cotyledon to its neighbor. The epithelial covering is like the human, except that it is much thicker, often containing as many as eight or ten layers. But the great point of difference is in the immense number of lymph canals with which the ruminants are furnished. In woman, so far as is yet determined, there are very few, if any; but in the cow and sheep I find that not only all the space between the cytogenic layer and the muscular wall is taken up with a rich layer of lymph canals and intercellular spaces, but that the plexus of the vessels themselves are richly supplied with lymph radicles and perivascular sheaths, like those found so abundantly in the brain and optic nerve in every animal. In fact, the whole thing gives one the impression of a slightly modified lymphatic gland, and that, like the lily pads on the surface of a marsh, the cotyledons are floating on a lymphatic swamp. In the sow, however, I find a very different state of things. The lymphatics are nothing like so rich, and the relations between the muscle and endometrium are a nearer approach to what we find in woman. In fact, with the exception of the tremendously thick epithelial coat, the internal microscopy of a sow's uterus is not far from a reproduction of what we find in the human being. But the striking thing about its parenchyma is that it is the child's and not the adult's condition that it resembles. I have found corroborative evidence of this conclusion by the examination of the human uterus in a condition of arrested development.

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"The whole of the lining is not used up even in the manufacture of the placenta, but, like processional teeth, the menstrual organ keeps up its steady growth under the fully developed afterbirth. Colin and Robin were among the first to notice the growth of the layer between the placenta and the muscular wall. On page 98 of Priestley's 'Lectures on the Development of the Gravid Uterus' you will find the subject well discussed, and the authorities brought up to 1860. The most satisfactory article on the subject, however, is found in the exhaustive comparative study of Professor Ercolani, of Bologna, for on Plate 10 of the atlas of illustrations accompanying the American edition you will find that sketch No. 3 settles the question beyond a doubt. So, then, we feel fully warranted in saying that this growth, once started in the higher orders of animals, under all normal circumstances never stops, but goes on until the whole of its material is used up. Now comes the question, What becomes of the products of this growth? In two of the ruminants I have shown that nature has supplied this tissue with an abundant lymph-stream, which in the unimpregnated state washes away the ripe material to the general circulation exactly as it does any other lymph-corpuscle. But in woman, where, on account of its erect position, the uterus has to depend on the tenacity of its own fibers for the preservation of its shape, no such thing as loose tissue of a lymphatic network can be depended upon. So, to preserve the integrity of the uterine wall, the emulgent stream is poured into the cavity of the body and got rid of through the vagina.

"The sow does not menstruate for the same reason that the child does not. The corpuscles are so slightly developed that they do not need rapid removal. Whether there are more than these three conditions in the animal kingdom I am now unable to say; but by this negative kind of proof I am ready to corroborate Ercolani's statement that the change necessary to the formation of the placenta must be much greater in some than in other animals. In an excellent paper Dr. Aveling has propounded the extremely ingenious theory of nidation; but it has this misfortune, that the conclusions of the observers quoted by Dr. Aveling, and the observations on which he founds his theory, are entirely erroneous.

"The microscope confirms the long-known clinical experience that the nest is always ready, but that, like everything else about a woman, there are times when it is better for a clearing out. The well-known fact that pregnancy is much more apt to occur directly after menstruation has always been a stumbling-block to the acceptance of the denidation doctrine, for I am sure that no other female will lay in a nest directly after she has destroyed it. Therefore the simplest definition of menstruation is a periodic washing away of those corpuscles that are too old to make a placenta. Stripped of its epithelium, the endometrium reminds one very forcibly of the sponge-like tissue of the lymph-glands, and it is very easy to see how, like the lymph-stream, the menstrual blood creeps through its meshes and washes away the corpuscles exactly as it is constantly doing in the spleen."

The Professional Status of Dentists in the United States.—Commenting on the recent action taken by the American Medical Association toward practitioners of dental surgery, by resolutions recognizing dentists of a certain grade of education as "members of the regular profession of medicine," our excellent contemporary the "Independent Practitioner" says:

"We have no positive knowledge of the train of events which brought about this action. The names of influential dentists have been mentioned as having instigated the movement. If this be so, and if it be true that it was in deference to their wishes that these resolutions were passed, we must say that, praiseworthy as doubtless were their motives, it would have been better that they had not put forth their hands to steady the ark of our progress. Unless the resolutions mean an honest expression of thoughtful and enlightened opinion, they are misleading and will tend to errors. We say, therefore, that they should be carefully considered by dentists, and that we must proceed thoughtfully.

"Dentistry was digged from a slimy pit. In its early days it was almost entirely mechanical and smacked strongly of charlatanism, as the resolutions intimate. But Harris and Brown and Bond and others saw the possibilities of a reputable and scientific practice. They believed the future to be pregnant with great things for dentistry, if once its practitioners could be brought to a higher plane—if the crude methods of the day could be crystallized into a consistent system to be followed by educated and intelligent men. They applied to certain medical colleges to commence the teaching of a dental practice founded on medical knowledge, and running in technical, scientific channels. What wonder that they were refused? Was the dentistry of that day a fit associate for scientific medicine? There was no theory of practice whatever. Dentists generally were ignorant, untrained, peripatetic tinkers. Exceptions there were, of course, but the great body of the dentists of that day were devoid of technical knowledge. Medicine was right in refusing to acknowledge the unknown foundling.

"The only course left was pursued, and separate colleges were founded and a new, unheard-of degree instituted. In these schools the teaching was at first mainly practical, and not scientific. But we have constantly grown, and the prescience of Harris and his compeers has been vindicated. Educated men came into dentistry, and its practitioners began to be known in the world of science. Our schools became broader in their teachings, and thoughtful medical men began to see what were the possibilities hidden under the at first so unpromising exterior. Some of the great universities recognized the scientific aspect of the new specialty, and saw its near relation to medicine and the liberal professions. Harvard threw open its doors, devised a new degree more consistent with literary training, and now for the first time dentistry took her place in the halls of her mother, medicine. Other great universities followed—Michigan and Pennsylvania—and now a liberal dentistry is a recognized part of true medical teaching."

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for May, the whole number of deaths reported during the month was 7,528. In each thousand there were 18·85 from diarrhœal diseases, 5 from typhoid fever, and 71·70 from croup and diphtheria. Forty-two deaths from small-pox were reported, all in the Maritime District.

An Honorary Degree.—At the last annual commencement of the Illinois Wesleyan University, the honorary degree of Ph. D. was conferred on Dr. James E. Pilcher, of the army, formerly managing editor of the "Annals of Anatomy and Surgery," of Brooklyn.

The National Guard of the State of New York.—On the 1st of June, Dr. William A. Valentine, corporal of Company F, Seventh Infantry, was promoted to the rank of captain and assistant surgeon of the regiment. In Orders, No. 7, dated June 28th, Captain Daniel Appleton said: "Captain Valentine joined this company June 3, 1880, and while absent from the city was unanimously elected corporal June 26, 1884. During his seven years' service in the ranks he performed most faithful duty, and as company inspector of rifle practice he made a brilliant record, keeping his company among the first in the State in this important branch of a soldier's education. Our best wishes go with our comrade for success in his honorable office." We learn that

Assistant Surgeon Valentine rendered most efficient service during his regiment's recent encampment.

The Massachusetts Medical Society.—We are informed that it was Dr. William G. Breck, of Springfield, who was elected vice-president at the recent annual meeting, and not Dr. Harlow.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending June 30th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 11th corresponded to an annual rate of 18·9 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Leicester, viz., 11·3, and the highest in Birkenhead, viz., 29·4 in a thousand. Small-pox caused 2 deaths in Sheffield and 1 in Birmingham.

London.—One thousand four hundred and fourteen deaths were registered during the week ending June 11th, including 114 from measles, 27 from scarlet fever, 9 from diphtheria, 74 from whooping-cough, 1 from typhus fever, 6 from enteric fever, and 9 from diarrhœa and dysentery. There were 259 deaths from diseases of the respiratory organs. Different forms of violence caused 70 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 17·5 in a thousand. In greater London, 1,745 deaths were registered, corresponding to an annual rate of 16·8 in a thousand of the population. In the "outer ring" 22 deaths from measles and 6 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 11th, in the sixteen principal town districts of Ireland, was 25·1 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 0, and the highest in Drogheda, viz., 38·1 in a thousand.

Dublin.—Two hundred and eleven deaths were registered during the week ending June 11th, including 18 from measles, 2 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 3 from scarlet fever. Diseases of the respiratory organs caused 37 deaths. Three accidental deaths and 1 suicide were registered, and in twenty-five instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31·2 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 11th corresponded to an annual rate of 21·9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 18·7, and the highest in Paisley, viz., 27·3 in a thousand. The aggregate number of deaths registered from all causes was 546, including 8 from measles, 9 from scarlet fever, 4 from diphtheria, 35 from whooping-cough, and 12 from diarrhœa.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,763,812, during the week ending June 4th, corresponded to an annual rate of 24·1. The lowest rate was recorded in Metz, viz., 11·5, and the highest in München-Gladbach, viz., 39·2.

Kingston, Jamaica.—One hundred and twenty deaths were registered during the month of May, 1887, including 6 from small-pox and 3 from diphtheria.

Santiago de Cuba.—The sanitary inspector at Havana, from information received through the United States consul, reports that the Spanish brigantine Catania arrived at Santiago on the 8th of June, from Montevideo. The vessel's original destination was Porto Rico, where the cargo was not allowed to be discharged, on account of a report that two deaths (cause unknown) had occurred on board. The vessel was allowed to enter at Santiago, for the reason that when she left Montevideo it was officially announced that the cholera epidemic had ceased.

Havana.—Three hundred and three deaths were registered during the two weeks ending June 23d, including 57 from yellow fever, 25 from small-pox, and 5 from enteric fever.

Key West—Yellow Fever.—The medical officer in charge of the Marine-Hospital Service at Key West reports 51 cases of yellow fever, and 20 deaths from that disease, up to June 30th.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	June 11.	2,260,045	941	..	....	14	....	13	5	26
Warsaw	June 4.	439,174	225	..	....	21	....	....	....	....
Amsterdam	June 11.	378,686	154	..	....	....	....	2	....	1
Rome	May 7.	369,214	151	..	...	3	....	1	1	1
Copenhagen	May 31.	290,000	132	..	....	....	....	....	....	17
Palermo	June 11.	250,000	88	..	....	....	....	....	2	3
Bristol	June 11.	223,695	57	.	....	....	....	2	1	....
Trieste	May 28.	150,157	81	..	....	7	....	...	....	2
Trieste	June 4.	150,157	74	..	....	4	....	2	3	1
Stuttgart	June 11.	125,510	37	..	....	....	....	....	....	1
Toronto	June 18.	120,000	27	..	....	....	....	....	....	4
Bremen	June 4.	119,000	43	..	....	....	....	2	....	....
Pernambuco	May 24.	111,000	98	..	....	...	1	....	....	....
Leghorn	June 12.	101,172	49	..	....	....	....	1	....	....
Reims	June 11.	97,903	46	..	....	....	....	4	....	....
Mayence	May 28.	65,701	23	..	....	....	2	....	....	....
Guayaquil	May 20.	35,000	52	.	1	4	....	14	....	....
Guayaquil	May 27.	35,000	52	..	8	2	....	18	....	....
Gibraltar	June 5.	23,631	15	..	....	....	....	....	....	1

THERAPEUTICAL NOTES.

Lamium Album as a Hæmostatic.—M. Florain ("Bull. gén. de thérap.") reports satisfactory results from the use of the dead nettle (*Lamium album*) in cases of metrorrhagia, after the more or less complete failure of various other hæmostatics. He used a tincture of the stems and root, made with white wine, in the following formula:

Tincture of *Lamium album*	100 parts;	
Syrup	50	"
Water	25	"

A dessertspoonful is given every half hour until the hæmorrhage stops, and then every four hours.

From the fresh stems of the plant, gathered at the time of flowering, the author has obtained an alkaloid, lamine, which, either as the sulphate or the hydrochloride, he has used hypodermically with the effect of promptly arresting hæmorrhage without producing any symptoms of poisoning. The dose of the alkaloid is not mentioned.

Neutral Hydrochloride of Quinine.—M. Clermont ("Bull. gén. de thérap.") agrees with M. Boymond as to the advantages of the basic hydrochloride of quinine, which is soluble in 21·4 times its weight of water, but recommends the neutral hydrochloride as still better fitted for hypodermic use, since it is soluble in its own weight of water and has no caustic action. It may be made either by adding a solution of chloride of barium to a solution of neutral sulphate of quinine, and separating the precipitated sulphate of barium by filtering; or by adding hydrochloric acid to a solution of the basic hydrochloride.

Seltzer Water as an Anodyne in Cases of Superficial Burns is recommended by M. Dubois, of Villers-Bretonneux ("Répert. de pharm."; "Lyon méd."). It is sufficient to allow the contents of a siphon, previously cooled, to flow over the part. The effect is attributed partly to the refrigeration and partly to the carbonic acid. While the application is not supposed to have any decided curative action, it is thought to hasten the return of the burned part to its normal condition.

ANSWERS TO CORRESPONDENTS.

No. 3.—If the person is eligible—*i. e.*, if he is between twenty and thirty years old and of good moral character—he should apply to the Board of Managers of the Training School for Male Nurses at Charity Hospital, Blackwell's Island, New York. A blank form of application will be furnished to him, with instructions as to how he should further proceed.

No. 4.—It is confidently expected that the new building of the College of Physicians and Surgeons, in West Fifty-ninth Street, opposite the Roosevelt Hospital, will be ready for occupation in time for the opening of the next course of lectures, early in October.

No. 5.—No excipient is necessary. Warm a wedgewood mortar by pouring hot water into it, throw out the water, dry the mortar rapidly, and stir the lupulin in it with a pestle, when it will assume the proper consistence for a pill-mass.

Original Communications.

PASTEUR'S PROPHYLACTIC TREATMENT OF RABIES.*

By HERMANN M. BIGGS, M. D.,

INSTRUCTOR IN THE CARNEGIE LABORATORY, AND DEMONSTRATOR OF ANATOMY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

Your president has kindly invited me to read a short paper before the Clinical Society, summarizing the conclusions reached in the recent investigations of Pasteur's treatment of rabies. I consented to do so only reluctantly, because I desired that my first paper before the Clinical Society should contain the results of more independent observations than I have made in this direction, and because so much has been recently written upon this subject that it has been divested somewhat of its interest. My own position in regard to it, however, has been somewhat misunderstood, and it was the desire to correct this erroneous impression that finally overcame my scruples. I have been wrongly regarded as an enthusiastic supporter of and believer in Pasteur's method for the prevention of rabies.

This I have never been, and although at first I was very favorably impressed with the method, because of the results that Pasteur so positively asserted he had obtained in his experiments on dogs, yet I only pleaded then that justice should be accorded to Pasteur for the magnificent work he had already done, and that sufficient time be granted to him to prove or disprove his positions.

It is my purpose in this paper to only present to you the present status of the question, especially from the practical standpoint, as based upon the most reliable information that we have at command, and I shall abstain as far as possible from expressing any individual opinions.

It is almost unnecessary to refer to the methods of Pasteur's treatment, as the principles underlying them have become very well known during the past eighteen months to all medical men.

We may say in brief, however, that in various communications to the Academy of Sciences in 1883, '84, and '85, Pasteur maintained—

1. That the virus of rabies was present in a concentrated form in the central nervous system, and that rabies could be usually produced by the subcutaneous inoculation, and with the greatest certainty by the subdural inoculation, of animals with portions of the brain or spinal cord obtained from animals dead of this disease.

2. That the virulence of this virus could be increased and the period of incubation shortened by the successive subdural inoculation of rabbits.

3. That by a series of inoculations with a rabic virus attenuated by drying, but of a gradually increasing virulence, he had been able to finally render dogs refractory to inoculations with the most virulent virus, and to protect them from the disease after infection with fresh street rabies.

4. That the method was equally applicable and perfectly safe as regards the human being, and that by its use persons bitten by rabid dogs, if inoculated before the period of incubation had elapsed, could with certainty be protected from the development of the disease.

Let us examine now more carefully each of these statements from the light of recent investigations. The first is that the virus of rabies exists in a concentrated form in the central nervous system, and that rabies can be produced with great certainty by the inoculation of animals with rabic brain or spinal cord. Duboie, in 1879, declared that the virus of rabies was localized in the medulla, and nearly all the investigations that have been made since Pasteur's communication agree in confirming his observations as to the presence of a specific virus in the brain and spinal cord of animals dead of rabies, and as to the possibility of the production of the disease by inoculations with this material. The disease thus produced, however, does not, as a rule, manifest itself by the ordinary symptoms of street rabies, but rather by the symptoms of a progressive paralysis—the so-called dumb or paralytic rabies; this is especially true of the manifestations of the disease in rabbits. The disease, moreover, is produced with far greater certainty, as is claimed by Pasteur, if the inoculations are made by subdural injections of the virus after trephining than if made by subcutaneous inoculations. Frisch, of Vienna, who was sent by the Austrian Government to study Pasteur's method, and who has made a series of elaborate experiments, confirms these conclusions, as does also in fact Abreu, the representative of the Portuguese Government, and Ernest, of Boston, in a carefully conducted series of experiments.

The question at once arises in this connection as to the effects produced by the subdural injection of the medulla from healthy animals. On this point the writer made a number of experiments on rabbits some time ago. In these experiments an emulsion was made in distilled water of the fresh spinal cord of dogs or rabbits. This was injected underneath the dura mater after trephining in the manner prescribed by M. Pasteur. The amount used varied between one and two c. c. The rabbits quickly recovered from the effects of the chloroform and were soon as lively and well as ever, excepting in two or three instances. In one of these cases the rabbit died in the course of a few hours, and in two others they were somewhat sluggish on the following day, but on the second were quite well and remained so. Aside from these cases, there were no symptoms of any kind following the inoculation, and at the end of several months the animals remained quite well. The results obtained by most other observers have been the same. Spitzka's experiments can not be considered in this connection, as he used for the most part different forms of septic matter and brought about a meningitis, cerebritis, or some other gross lesion which would quite account for the symptoms produced. No such changes are found in animals dead of a rabies produced by subdural inoculation.

The second statement is that, within certain limits, the virulence of the virus is increased and the period of incubation shortened by the successive subdural inoculation of rabbits. So far as I know, no extensive experiments have been made in regard to this point. Von Frisch's experiments, so far as they go, confirm this statement.

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* Read before the New York Clinical Society, May 27, 1887.

The third proposition announces the possibility of rendering animals refractory to inoculations with the most virulent virus by a series of inoculations with an attenuated virus, and the possibility of preventing the development of rabies in animals infected with the virus of ordinary street rabies.

As to the first question, the most carefully conducted and most reliable experiments seem for the most part to confirm this statement. Von Frisch, of Vienna, after a long series of experiments, summarizes his conclusions on this point in the following words: "Animals that have been subcutaneously inoculated with an ascending series of the spinal cords (attenuated by drying) are protected by the weaker virus against the effects of the stronger if the previous successive inoculations have not followed each other too closely." This last clause contains a very important exception with regard to the later methods of Pasteur, as we shall see later.

Ernest, of Boston, draws the following conclusions as the results of a series of carefully conducted experiments upon this point: "Injections of a virus modified in strength by drying, and in the manner prescribed by Pasteur, exert a very marked protective influence against an inoculation with virus of full strength."

In his experiments, out of nine rabbits which were first inoculated with a strong virus, and then protected by subcutaneous inoculations with an attenuated virus, one only died. In another series, when the strong virus was used and the animals were left unprotected, seven died.

The results obtained by Abreu do not agree with those obtained by other observers. He was sent by the Portuguese Government to Paris to study the subject of rabies, and, after eight months' work in Paris and Lisbon, he made a very full and voluminous report to the Minister of the Interior of Portugal. He says that the rabies produced in rabbits by the inoculations of the medulla of rabid animals appeared after a period varying from one day to five months, but that he was able to produce, in some cases, the same symptoms by the inoculation of rabbits after trephining with the medulla of normal rabbits.

Two Italian investigators, De Renzi and Amoroso, working in Naples, have also reported adverse results.

No conclusive experiments have been made, so far as I know, as to the possibility of preventing the development of the disease in dogs after infection, in any way, with ordinary street rabies. The experiments of von Frisch are rather adverse to this proposition.

Although the observations at hand are somewhat contradictory, we may at least conclude that the most careful investigations show that the serial inoculations of the weaker virus grant a certain degree of immunity to the action of the strongest virus.

This brings us to the consideration of the fourth point—namely, that this prophylactic method is equally applicable to the human being, and that persons bitten by rabid dogs can with certainty be protected from hydrophobia if they are subjected to the treatment within fifteen or twenty days, or before the period of incubation has elapsed. This is the practical question in the method, and can only be judged of from the results obtained by such inoculations.

The first point that impresses one on carefully reviewing the subject is the enormous number of cases of rabies that have suddenly appeared. Until recently certainly rabies and hydrophobia have been considered very rare diseases in all countries, but in one year after the announcement of this discovery nearly two thousand Frenchmen were subjected to this treatment because they were supposed to have been bitten by rabid dogs, and were in imminent danger of hydrophobia. This astonishing fact at once attracts and holds our attention. If these patients have in reality been bitten by rabid dogs, the disease can no longer be considered a rare one, but must have become a very common one. The most careful and reliable estimates—those of Leblanc—as to the proportion of persons bitten by rabid dogs who develop hydrophobia, place the ratio as at 16 to 100. Bouley, however, says that the proportion fixed by Hunter—*i. e.*, 5 to 100—approaches nearer the truth. If we accept the ratio of 16 to 100, as Pasteur has done, there would have been 320 deaths from hydrophobia in France in 1886. This is what Pasteur alleges would have occurred. Let us glance now at the statistics of this disease for the last few years in France and other European countries, and see how they compare with such an estimate of the death-rate in France for last year. Boudin, in a communication to the French Academy in 1863, gave the average death-rate from hydrophobia in Prussia, from 1854–'58, as 19·5; in Bavaria, from 1855–'56, as 3·5; in Belgium, from 1856–'60, as 2·6; in England, from 1853–'57, as 10; in Scotland, from 1855–'63, as 1; in Sweden, from 1856–'60, as 4·2.

In Austria the deaths have averaged 8 yearly for the six years ending in 1885. In Prussia the death-rate during the last five years has been 10, 6, 4, 1, and 0, respectively, or 4·2 annually. In Holland the average was 2·1 for the ten years ending in 1879, and during the last five years no deaths have been recorded in the official government reports. In France, according to the reports of Tardieu and Brouardel, for the years 1850–'72, there were in all 685 deaths, or an average of a little less than 30 yearly. Tardieu says of his reports that nearly all the departments replied to his inquiries, and Brouardel that about two thirds were included in his. If we assume that the deaths in the other third were proportionate, we would have a total of 45 annually. It seems safe to assume, however, that the errors in diagnosis in ascribing to hydrophobia deaths which were caused by other affections would more than counterbalance the cases not included in the reports, and there is little danger of any genuine cases of this escaping notice. Now there have been during the year ending Feburary 1, 1887, 14 deaths reported in France from hydrophobia among uninoculated persons, and 25 of Pasteur's patients have succumbed after treatment, making a total of 39. Three of Pasteur's cases he maintains died of some other disease. If we now allow for unreported cases, as we have done in the other statistics, we have a total greater than 45, which represents the highest reliable previous estimate of the average annual death-rate in France.*

The success that has attended the institutes established in other countries for the prophylaxis of rabies has been, as a whole, less satisfactory than that obtained in Paris. At Moscow 2 deaths have occurred among 115 persons inoculated; at Odessa, 7 deaths in 107 patients.

At Warsaw, if the reports are to be credited, a very sad event has occurred which would in itself almost condemn the whole method if shown to be true: In July a boy was bitten at Lubine by a dog supposed to be rabid, and was immediately subjected to the prophylactic treatment at Warsaw. Contrary to the usual stupid procedure, the dog was *not* killed but was placed in confinement. On the 11th of November the boy died of hydrophobia. At this time the supposed rabid dog was living and well and had shown no further evidences of rabies. The conclusion seems to be inevitable in this case that the boy died from the result of the inoculations.

In St. Petersburg 84 persons have been treated, but no deaths have occurred.

I have appended the table given by M. Lutaud in the

TABLE GIVING THE MORTALITY AMONG THE FRENCH PATIENTS TREATED IN M. PASTEUR'S LABORATORY IN 1886

No.	Name.	Age.	Part of body bitten.	Date of bites.	Dates of treatment.	Description of treatment.	Date of death.	Cauterized or not.	Animal.	Observations.
1	Videau, Matthieu.	3	Forehead.	Feb. 24.	Feb. 27 to March 7.	Spinal cords of 14 to 5 days.	Sept. 24, 1886.	Not.	Dog.	Slightly bitten; incubation remarkably long; convulsive hydrophobia; incubation, 200 days.
2	Lagut, Elvina.	11	Inferior lip.	May 18.	May 24 to June 2.	Spinal cord of 14 to 5 days.	June 17, 1886.	"	"	Convulsive hydrophobia, canine.
3	Bouvier, Marius.	40	Hand.	April.	....	....	July 21, 1886.	"	Cat.	Convulsive hydrophobia; M. Pasteur's supporters say that it was a case of deliri'm tremens; incubation long.
4	Cledière, Emile.	21 mo.	"	June 17.	June 21 to June 30.	....	Aug. 17, 1886.	"	Dog.	
5	Peytel, Henri	6	"	June 28.	June 30 to July 9.	....	July 16, 1886.	"	"	Canine hydrophobia; incubation, 18 days.
6	Leduc, Zélie.	70	"	July 14.	July 18 to 25.	....	Sept. 10, 1886.	"	"	Convulsive hydrophobia; incubation, 50 days.
7	Magneron, Norbert.	18	"	July 25.	August 1 to 7.	....	Oct. 16, 1886.	Cauterized 3 days after.	"	Convulsive hydrophobia; incubation, 81 days.
8	Moerman, Alfred.	40	"	June 28.	August 11 to 21.	....	Sept. 7, 1886.	....	"	Convulsive hydrophobia.
9	Christin.	12	Forehead.	June.	July 1 to 10.	....	July 17, 1886.	Not.	"	The laboratory says the child died from meningitis, but the post-mortem examination, made at the hospital at Evian, goes against that opinion; the child died of hydrophobia after having been bitten.
10	Moulis, André.	6	Forearm.	July 31.	August 6 to 12.	Spinal cords of 14 to 5 days.	Sept. 8, 1886.	Cauterized.	"	
11	Grand, Louis.	41	Hand.	Sept. 5.	Sept. 14 to 28.	....	Sept. 8, 1886.	"	"	
12	Duresset, Edouard.	..	Leg.	August.	September.	....	End of Sept.	?	"	The death, which happened one month after the inoculations, is said to have been due to pneumonia; the patient was treated by Dr. Yot, at Versailles.
13	Astier, Justin	2	Both cheeks	Aug. 4.	August 5 to 21.	....	Sept. 16, 1886.	Cauterized.	"	
14	Jansen, Louis.	47	Legs and fists.	Aug. 18.	Aug. 21 to Sept. 3.	....	Dec. 31, 1886.	Not.	"	Convulsive hydrophobia; incubation, 146 days.
15	Clergot, Eugène.	27	Forearm.	Aug. 7.	August 11 to 23.	....	Oct. 24, 1886.	"	"	
16	Lodini, Bernard.	46	Leg.	Oct. 12.	October 21 to 31.	New treatment, described on Nov. 2, 1886.	Nov. 24, 1886.	"	"	Paralytic hydrophobia; pain at the points injected.
17	Leteng, Etienne.	59	Foot bitten through slipper.	Nov. 3.	November 8 to 20.	....	Dec. 8, 1886.	"	"	Paralytic hydrophobia; pain at points injected, not at part bitten.
18	Née, Leopold	42	Leg bitten through trousers.	Nov. 21.	November 17 to 26.	....	Dec. 17, 1886.	"	"	Ditto.
19	Gerard, Amédée.	28	Hand.	Dec. 1.	December 3 to 13.	....	Jan. 3, 1887.	"	"	Ditto.
20	Reveillac, Louis.	25	"	....	....	....	....	"	"	Ditto.
21	Rouyer, Arthur.	12	"	Oct. 20.	Oct. 25 to Nov. 5.	....	Nov. 26, 1886.	"	"	Ditto. (According to M. Brouardel, a case of uræmia.)
22	Goriot, Paul.	12	Forefinger.	Sept.	End of December.	....	Jan. 14, 1887.	"	Cat.	Ditto.
23	Fonlup.	30	Hand.	Dec. 1.	December 12 to 22.	....	Jan. 24, 1887.	"	Dog.	Ditto.
24	Alphand.	42	"	Dec. 13.	Dec. 20 to Jan. 1.	....	Jan. 20, 1887.	"	"	Ditto.
25	Bergé.	40	"	Sept.	Sept. 12 to 24.	....	Jan. 28, 1887.	"	"	Ditto.

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* These statistics have been taken for the most part from M. Lutaud's work entitled "La rage."

"British Medical Journal" for April 2d of the fatal cases treated by M. Pasteur. It agrees entirely with Pasteur's report, with the exception that he maintains that Nos. 9, 12, and 21 in the table died from some other disease.

It seems to me to be a significant fact that 24 of these 25 deaths have occurred during the seven months ending February 1st, only one occurring in the first five months of the year. At this rate we shall have a mortality among Pasteur's French patients of more than 40 annually, which is probably greater than the previous average death-rate. This number does not include the deaths occurring among uninoculated persons.

In October of 1886, because of the large number of deaths following the previous methods of treatment, Pasteur commenced the employment of a new intensive method, varied according to the seat and severity of the bite and the period that had elapsed after the injury. The treatment was varied for three classes of cases as follows:

I. Treatment for small bites through the clothing:

1st day. Three inoculations with medullas 12, 11, and 10 days old.

2d day. Three inoculations with medullas 9, 7, and 8 days old.

3d day. Three inoculations with medullas 6, 5, and 4 days old.

4th day. One inoculation with medulla 3 days old.

5th day. One inoculation with medulla 2 days old.

6th day. One inoculation with medulla 1 day old.

7th day. One inoculation with medulla 4 days old.

8th day. One inoculation with medulla 3 days old.

9th day. One inoculation with medulla 2 days old.

10th day. One inoculation with medulla 1 day old.

II. Treatment for wounds of uncovered parts other than the face. Treatment as above. Several days intervene, and then the series 4, 3, 2, 1 is repeated.

III. Intensive treatment, applied to persons bitten on the head, face, or neighboring parts (neck, etc.), or when the patients have arrived late.

Treatment as before, but the series 4, 3, 2, 1 is repeated a number of times with intervals of two to four days for four, five, or even six weeks.

Among the persons inoculated by this intensive method there have been nine deaths from a form of rabies hitherto almost unknown in the human being—namely, paralytic rabies—a disease similar to that which is produced in the laboratory in rabbits.

The following observations, made by Professor Germe, of Arras, and communicated to the Academy of Medicine of Paris by Professor Peter as quoted by M. Lutaud, can be considered as typical for the nine cases of paralytic hydrophobia noted in December and January:

"L. N., aged forty-two, a basket-maker, was traveling in the country with a little cart under which a dog was tied on November 12, 1886, near Avesmes le Comte; he let his dog loose and was immediately bitten on the right leg. He seized the dog, tied him up, and killed him. The dog had never ceased taking food. The post-mortem examination of the dog was made at Arras by a veterinary surgeon who stated that he could find no symptoms proving that the dog was rabid.

"The corpse was sent to M. Pasteur, and the family is still waiting to know if the dog was rabid or not. N. remained eleven days at M. Pasteur's laboratory, during which he received twenty-one inoculations to the number of even three in one day. After each inoculation he complained of giddiness, felt sick, and vomited.

"On his return to Arras on November 29th nothing remarkable was observed except increase of appetite, which had also been the case while staying in Paris.

"During the nights of December 10th and 11th intense pain was felt in the parts of the body pricked by the inoculations, the pains rapidly invading the spine and continuing until the last moment.

"The patient was restless, and said that he was suffering as he did after the inoculations in Paris, and was sure he would die. A physician who was called in supposed at first that N. was suffering from lumbago, and, later on, from inflammation of the spine.

"The above-mentioned symptoms were followed by great difficulty in breathing, salivation, convulsions of the muscles of the face, arms, and thorax; the patient had nightmares, was restless, and sweated profusely, but there were no general convulsions or hydrophobia. He could swallow easily, except on the last two days of his life. On the 14th two physicians were called in consultation, and they were in doubt as to whether it was an inflammation of the spine or the result of the inoculations. Paralysis set in soon after; the sight got weaker and weaker till it was completely lost; breathing became more and more difficult, and saliva issued abundantly from the sides of the mouth.

"At last the patient died on December 17th at 11 P. M."

As regards this paralytic rabies, it is certain that if it has ever occurred in human beings, it is only in rare instances. The frequency of its development in those patients who have been subjected to the intensive method of treatment certainly has great significance when taken in connection with its symptoms and with similar inoculation experiments on animals.

The conclusions arrived at by von Frisch on this point are interesting.

To the uusuccessful results obtained by him in his first series of experiments with subdural inoculations with strong virus, either before or after the prophylactic treatment, Pasteur has objected—

("Comptes rendus," November 2, 1886) that the preventive inoculations followed each other too slowly, although Dr. v. Frisch had carefully adhered to the procedures described by himself. M. Pasteur then required the application of the whole amount of (preventive) virus within twenty-four hours (the inoculations being made every two hours), and two or three repetitions of the whole series; further, that these inoculations should begin soon after infection, at least on the following day. Experiments thus carried out on dogs and rabbits gave not one favorable result; all the animals died, even after this "intensive" treatment.

But, further, the important result arises from these experiments that, by a quick succession of inoculations, gradually increasing in virulence, a protective power of the weaker against the subsequent stronger ones is no longer to be safely expected. Of a number of rabbits and dogs which served in control-experiments to the above, and in which the intensive treatment alone was adopted without previous infection, a very large majority died.

> Animals that were subjected to preventive inoculations after subcutaneous infection, nevertheless succumbed to rabies, with few exceptions, even when the incubation-period extended to thirty-four days.

At the meeting of the Academy of Sciences on January 11th and 18th the distinguished clinician, M. Peter, after reporting several cases of paralytic rabies, came to the following conclusions—namely, that, first, the death-rate from hydrophobia in 1886, in France, had not been lowered by Pasteur's method; and, second, that the death-rate tended to rise on account of the intensive method. M. Peter then bitterly attacked Pasteur's method, and M. Vulpian for his support of it.

In endeavoring to reach a conclusion as to the efficacy of this method from the experimental results obtained by independent observers and the government commissions appointed to investigate this subject, we are impressed by the scarcity of reliable experimental data. There have been but few experimental researches thus far reported. Those of von Frisch are the most important ones. His conclusions, which have just been given in part, are certainly far from confirmatory of Pasteur's allegations. Abreu, the representative of the Portuguese Government, has written on the fly-leaf of the copy that I have of his report to the Minister of the Interior of Portugal as follows: "I can not accept the conclusions of the illustrious sage, and it appears to me that his immortal attempt threatens to transform hydrophobia into a common distemper of the human kind, because the public forget the necessity for cleanliness and cauterization of suspicious wounds." The English Government commission are still holding their report for further investigations. The Belgian Government commission reported adversely to the establishment of an institute for these inoculations in Belgium. Two Italian experimenters, De Renzi and Amoroso, have reported adversely. The most distinguished German experimenters, and many of the English, have from the beginning regarded the treatment with suspicion and distrust. On the other hand, some French investigators have confirmed Pasteur's results, and the experiments of Ernest, so far as they go, are in quite close accord with the conclusions of Pasteur. The conclusions that he draws from his experiments are:

I. There exists in the cords and brains of animals inoculated in Pasteur's laboratory a specific virus capable of the production of similar symptoms through a long series of animals.

II. That these symptoms are produced with absolute certainty when the method of inoculation is by trephining the skull and injection under the dura mater; with less certainty when the inoculation is by subcutaneous injection.

III. That the strength of this virus is lessened when the cords containing it are removed from the animals and placed in a dry atmosphere at an even temperature.

IV. That the symptoms produced by the inoculation of this virus only appear after a certain period of incubation distinctly shorter when the inoculation has been done by trephining than when done by subcutaneous injection.

V. That injections of the virus modified in strength by drying, and in the manner prescribed by Pasteur, exert a very marked protective influence against an inoculation with virus of full strength.

VI. That a very moderate degree of heat destroys the power of the virus entirely, while prolonged freezing does not injure it.

It has been found, however, that rabies can not be produced with certainty by the subcutaneous inoculation of the virulent virus. In the majority of cases the disease may be produced, but this result is not invariable, and in the experiments from which these observations were drawn the virus was introduced in this manner. The disease, however, can be produced with the greatest certainty by inoculations underneath the dura after trephining. The question immediately arises, What effects are produced by subdural inoculations with virulent virus either before or after the prophylactic treatment? In Ernest's cases, 50 per cent. died when strong virus was used this way, either before or after the prophylactic treatment. That 50 per cent. lived would seem to show that there certainly was a marked prophylactic action exerted by the treatment, for, when not protected by treatment, all the animals die after subdural inoculation with strong virus. Von Frisch, however, has not obtained such good results, and I append his conclusions upon this point:

> Animals that have been subcutaneously inoculated during the course of ten days with virus material (that is, portions of spinal cord dried for different periods) of gradually increasing virulency, contrary to M. Pasteur's statements, do not possess perfect immunity against infection with fresh "street rabies," and, after subdural infection with the latter, remain healthy only in exceptional cases.
>
> Rabbits and dogs that were subjected to preventive inoculations after trephining and subdural infection with "street rabies" (of sixteen days' incubation period), all died of rabies with one single exception. (See "Anzeiger der k. k. Academie der Wissenschaften," July 15, 1886; also "Medicinische Presse," 1886, No. 32.) The animal, moreover, that remained healthy was infected subdurally fourteen weeks later, and died of rabies eight days afterward.

Among distinguished members of the French medical profession, Pasteur's most bitter opponents are M. Peter and M. Lutaud, the able editor of "The Journal of Medicine of Paris." M. Lutaud, in a careful and comprehensive review of the whole subject, in a work entitled "La rage," charges Pasteur with a perversion of statistics, of want of accuracy in his work, and of unworthy motives. He concludes, with M. Peter, first, that the mortality from hydrophobia in France has not been decreased by his inoculations; and, second, that it tends to rise as the result of his recent intensive method of treatment.

It is quite impossible, in this short paper, to take up the consideration of the many disputed questions or the experimental evidence brought forward by Pasteur to show that the majority of the 2,000 Frenchmen inoculated were bitten by rabid dogs. The experimental evidence at hand from other sources is contradictory and insufficient. Von Frisch's experiments are lacking in the convincing proof of his conclusions. Ernest's are more carefully detailed, but do not cover all of the most important ground. We find, moreover, a considerable discrepancy in some of his results as compared with Pasteur's statements. Ernest has thrown out of his table of thirty-two rabbits inoculated by trephining five animals. These showed no symptoms, or only slight ones, and were excluded on the ground that the virus was attenuated or destroyed by heating. To prove this statement, he has reported one additional experiment, in which the virus was heated for five minutes to 110° F., and in which no symptoms followed the inoculation. This experiment, in itself, evidently proves nothing.

On the other hand, M. Gibier, in a note to the Academy of Sciences, dated June 11, 1883, stated that the virus of rabies was attenuated by the influence of a temperature varying between 40° to 46° C., or 104° to 115° F. Gibier's experiments were repeated by M. Pasteur, and in a later communication Gibier's conclusions were stated by him to be erroneous. (See Vignal's "Report," "Brit. Med. Journal," April 17 and 24, 1886.) This, of course, is not a matter of paramount importance, but involves the modification of Ernest's second conclusion, and the rejection of a part of the sixth.

Dr. Valentine Mott has told me that in his inoculations death has almost invariably followed after subdural injections of the virus. In the few cases where this result did not follow, he had thought the virus had not passed under the dura, or was too small in quantity. When these animals were inoculated a second time, death always followed. Death had never occurred later than the fourteenth day in his cases, and very rarely had reached this limit. In Ernest's cases 14·9 days was the average time, and twenty-eight days the longest period.

As regards the experimental data at hand, we may conclude that they are contradictory, insufficient, and incomplete. So far as the results obtained go, they show that there is some peculiar nerve poison that Pasteur is experimenting with. This poison is probably that of rabies, has a specific action on certain animals, may be attenuated by keeping in a dry air for various periods of time, and when thus attenuated and used for inoculation in a prescribed manner, grants a certain degree of insusceptibility to the strongest virus. The insusceptibility thus conferred, however, is not absolute.

We will return now to the practical results obtained in the inoculation of human beings. It seems quite incredible that nearly 2,000 French persons have been bitten by rabid dogs in 1886. It is fully as incredible that there would have been 320 deaths from hydrophobia in France in 1886 if Pasteur's inoculations had not been made. The estimated average mortality in France from 30 to 45 annually for many years, as shown by the most reliable statistics at hand when compared with deaths in other countries from this disease, and with our general knowledge of the rarity of the disease, seems a very liberal estimate, and I should say is certainly not too low. The deaths during the last year have been, roughly speaking, somewhere between 35 and 40. *Now, if these statistics are correct*, we are forced to the conclusion that there is as yet no proof from this side of the question of the efficacy of the method. Again, M. Pasteur has placed the number of deaths in the Paris hospitals during the last five years at 60, or 12 annually. This year he says there have been only three—one of his patients, and two who had not been inoculated. Lutaud, on the other hand, gives in detail a statement of each death from hydrophobia in each of the Paris hospitals for the last five years, and finds that the total number is 26, or 5·1 annually, and the total number for the last eleven years as 43, or 3·9 annually, instead of 12, as stated by Pasteur. Further, he says that two of Pasteur's patients have died in the Paris hospitals in 1886, making the total number of deaths 4 instead of 3, as Pasteur has stated. These statistics again, if correct, show nothing favorable to Pasteur.

Now as to the new method of intensive treatment, which appears to have been subjected to innumerable modifications. This, it seems to me, has no rational foundation as viewed from any standpoint. It does not harmonize with anything that we know concerning the virus of any of the infectious diseases. It is as unscientific in its conception as it is irrational in its application, and is opposed to Pasteur's own previous statements and belief. Further, so far as we know, it had no sufficient test in experiments on animals before it was applied to man, and the only independent experiments thus far made with it wholly condemn it. The method of development of paralytic rabies in the human being, the history and manifestations of the disease, the experimental results obtained in animals, and the case of hydrophobia at Warsaw, all seem to make it at least possible that the disease may be actually produced by the inoculations.

After this hasty review of the whole subject it does not seem to me that the conclusion drawn by von Frisch from his experiments is without foundation when he says: "That M. Pasteur's method of conferring immunity on animals against the virus of rabies requires much further working out before it can be considered safe or trustworthy, while as to human beings there are as yet no valid reasons for the institution of a preventive treatment. On the contrary, there is a strong presumption that the actual disease may be produced by the preventive treatment itself, at least in the intensive form lately adopted by Pasteur."

In a paper read nearly one year and a half ago the writer said: "It seems to me that the strongest evidence of the efficacy of the method for the prevention of rabies rests, not upon any results thus far obtained in the inoculation of human beings, but upon the results of his experiments upon dogs. But these experiments are as yet unconfirmed by other observers, and scientific men will hesitate to accept such far-reaching conclusions as are involved in this method without such confirmation." And quoting again from that paper: "Pasteur's prophylactic method for rabies rests purely on empirical grounds, and can only be fairly judged by the practical results obtained by its use." After the lapse of a year and a half we can only say that the experiments upon animals made by other observers have been only in part confirmatory of his position, and that the practical results thus far obtained lack very much of being what Pasteur declared they would be. With scarcely any more confirmatory evidence than we had at that time, and with much opposing evidence derived from the practical results obtained by the application of the method, we may well follow in the footsteps of the English hydrophobia commission and wait for fuller and more reliable information.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.

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(*Continued from page 35.*)

In arriving at an appreciation of the physiology of the recurrent laryngeal nerves, it may be well to view them in the light of our knowledge of the functions of the organ over which they preside. We can recognize three distinct functions of the larynx controlled by three distinct groups of muscles, which are all innervated by the recurrent nerves. These wonderful nerve-trunks, therefore, which, as previously stated, are but one millimetre in diameter, contain sets of nerve-fibers as distinct as the functions of the groups of muscles which they supply. Mentioned in the order of their importance to life, these muscular groups and their functions are: (*a*) Those that carry on the respiratory function of the larynx; (*b*) the sphincter group, which serve to close the lumen of the larynx to prevent the entrance of foreign bodies, and play an important part in all expulsive acts, such as coughing, sneezing, retching, vomiting, or defecation, "or in those muscular actions where it is necessary to have the thorax fixed in order to enable the muscles attached to it to act with greater advantage or greater precision" (Lauder Brunton and Cash *); and (*c*) the phonatory muscles.†

The respiratory and the phonatory muscles which are attached to the arytenoid cartilages have diametrically opposite action. The respiratory muscles (the posterior crico-arytenoids) hold the glottis open for the ingress and egress of air, and, on direct stimulation, they open it still wider, while the phonatory muscles, when called into play, close the glottis by approximating the vocal bands. The vocal bands are brought into apposition in the median line of the glottis for sound production by a most delicate co-ordination of automatic muscular action, and not by forcible constriction in the sense with which we apply that word to the sphincter-like working of the muscles contained in those portions of the larynx above the vocal bands—namely, in the ary-epiglottic folds and in the ventricular bands.

These functions of the larynx can be watched in the laryngoscopic mirror. If the subject under examination takes a deep inspiration, the glottis will immediately dilate under the increased respiratory stimulus; if a probe or other instrument is passed into the interior of the organ, its walls will instantly shut tightly around it, and reflex coughing or retching will be produced; if a vocal sound is emitted, it will be accompanied by an approximation of the vocal bands. Since the recurrent furnishes these groups of muscles with nerve-force, we must speak of it, like the organ over which it presides, as having three functions, its effect upon the larynx depending upon the particular set of nerve-fibers which are called into action. If the different sets of filaments contained in the trunk of the nerve could be traced to their origin, and there differentiated and separately stimulated, we might undoubtedly produce an opening or a closing of the glottis at will, according to the function of the nerve-fibers operated upon.

But when we experiment with the nerve-trunk itself we find there all the different fibers packed together in a small compass, and on applying a current of electricity to it we can not be positive that we are stimulating all of its component filaments equally and simultaneously. We have no definite knowledge of the numerical or topographical relation between the dilating and the constricting fibers. The fact that a stimulus applied to the recurrent nerve of some animals causes a dilatation of the glottis, while in others, under the same conditions, it produces a closure, and again, in the same animal, at one moment dilatation and at another moment closure, according to circumstances, shows us what a complex nerve we are dealing with, and how great are our difficulties when we attempt to apply results obtained in the lower animals to man.

The most important function of the larynx is that of respiration. The muscles which regulate this vital act are the largest of the intrinsic laryngeal group. They are in ceaseless activity during life, holding the glottis open to permit the passage of air to and from the lungs. Theoretically, we should expect that the nerve-fibers which innervate these muscles would be the most numerous, the most sensitive, and of greater resisting power than all the other individual filaments of the recurrent nerve; and also that any stimulus applied to the nerve would excite a contraction of these muscles, since they are the largest of the laryngeal group, and the most bountifully supplied with nerve-force; but practically we know that this is not universally the case. If, for instance, the recurrent nerves of dogs that are unnarcotized or slightly under the influence of ether, chloroform, chloral, or morphine, are stimulated with the feeblest current of electricity, the first effect noticeable upon the glottis is a vibratory movement of the vocal bands, with a tendency toward closure, which, on gradually increasing the intensity of the stimulus, becomes a firm closure of the glottis through tetanic contraction of the adductor muscles. Now, it is very remarkable that if we irritate the recurrent nerves of a cat under the same conditions, the effect upon the glottis is exactly the opposite. The cat's glottis will dilate instead of closing. Contrary to what we observe in dogs, the earliest effect of a weak stimulus applied to the recurrent nerves of the cat is to produce a vibratory movement of the vocal bands with a tendency toward dilatation, which immediately merges into a rigid dilatation as the strength of the stimulus is increased.

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* "The Valvular Action of the Larynx," "Journal of Anatomy and Physiology," vol. xvii.

† It must be recognized, however, that some of the fibers belonging to the group of muscles commonly described as the thyreo-arytenoids may act as sphincters under certain conditions, while at other times they serve purposes of phonation.

Dr. Douglas Powell,[*] of London, has drawn our attention to the fact that the same phenomena are not observed in different animals, and he has recorded that in the cat, instead of closure, powerful abduction of the vocal bands was obtained on galvanizing the recurrent nerves.

Our own observations agree with those of Dr. Powell, and we think we may affirm that in the dog the function of the recurrent nerve, under normal conditions, is to close the glottis, while in the cat, under similar conditions, it is to open the glottis. These effects take place whether stimulation be applied to the intact nerves or to their peripheral ends after section. These opposite results in the lower animals render the practical and pertinent question, "*What is the normal function of the recurrent nerve in man?*" difficult to answer until we are able to determine which animal man most resembles, or until we subject him to direct experimentation.

The results of experiments on man have not been entirely satisfactory, but they all point in one direction—viz., that stimuli applied to the nerve close the glottis. We know of but one series of experiments made on man where the recurrent nerve was dissected out and irritated. Dr. W. W. Keen,[†] of Philadelphia, in 1875 experimented on the recurrent nerve of a criminal recently hanged, in order to determine the question whether a chiasm of the minute fibers of the nerve existed. He says that repeated faradization, both with weak and with strong currents, of the left recurrent and left vagus produced decided movements of the left vocal cord only. The character of the movements (adduction or abduction) was not mentioned, but Dr. Keen has recently informed the writer that, although he would not like, at this distance of time, to assert positively that the left cord was adducted, he is as reasonably certain that such was the fact as one can be of a remembered fact after a long interval of time.

The attempts that have been made on the living subject to excite the recurrent nerves through the skin and soft parts of the neck, and to observe the effect upon the glottis through the laryngoscopic mirror, have been crowned with a certain degree of success, and it has always been the adductor muscles that were seen to respond to the stimulation.

Gerhardt,[‡] the earliest investigator in this direction, reached negative or doubtful conclusions. Dr. Pauly, of Posen, and Professor Quincke[#] employed this percutaneous method to reach the recurrent nerves, and observed that stimulation was followed by complete closure of the glottis. Rossbach,[‖] Erb,[△] and Kaplan [◊] have each determined that it was upon the adductor muscles of the glottis that the electrical stimulation was manifested, but, as the results were not constant, and as it was uncertain whether the effects were of a reflex nature or direct upon the nerve, or perhaps upon the laryngeal muscles themselves, we can not regard these observations as throwing any very clear light upon our present inquiry. It is noteworthy, however, that an opening of the glottis has not been recorded by those who have experimented with the recurrent nerves in this manner; and, from our empirical knowledge of the action of the muscles of the glottis in health and in disease, we consider it reasonably certain that any irritation of the trunk of the recurrent nerve in man would produce a spasm of the glottis and not a dilatation.

Let us now return to the lower animals. We have already said that stimulation of the recurrent nerves of the dog, under normal conditions, *closes*, while excitation of the recurrent nerves of the cat *opens*, the glottis. Yet it is in our power, under certain circumstances, to reverse this natural order of phenomena in these two animals, and to produce in the dog a dilatation and in the cat a closure. The sole condition in the dog, so far as our present experience goes, by which a dilatation of the glottis can be obtained, is through the influence of sulphuric ether, and when the animal is in profound morphine narcosis.

From some undiscovered cause ether completely abolishes the offices of the glottis-closers. It has some unknown peripheral effect upon either the laryngeal muscles or nerves, or both, so that when a dog is in profound ether narcosis his glottis no longer closes when the recurrent nerves are stimulated, but, on the contrary, is opened widely through the action of the glottis-openers, upon which ether has, apparently, no influence.

In a paper [*] entitled "The Respiratory Function of the Human Larynx," published two years ago, we recorded this fact for the first time. From the date of that observation to the present time experimental researches have been prosecuted in the physiological laboratory of the Harvard Medical School, by others as well as by ourselves, with the view of determining the cause of this "ether-effect," and whether sulphuric ether would have analogous effects upon other nerves and upon other groups of antagonistic muscles.

While we were engaged in this direction, having established beyond doubt the *fact* of what for the sake of brevity we shall call the "ether-effect," a paper appeared in the "American Journal of the Medical Sciences," July, 1886, by Dr. F. Donaldson, Jr., wherein the writer stated that he had been unable to obtain the "ether-effect." He did, however, observe a dilatation of a dog's glottis when the animal was under ether, but inferred that the phenomenon was due to weak stimulation of the recurrent nerve instead of to the ether, inasmuch as he produced a closure of the glottis on increasing the intensity of the current.

Shortly after this paper was issued, Felix Semon, M. D., F. R. C. P., and Victor Horsley, B. S., F. R. S.,[†] published in a lucid report the results of their investigations on this subject, which fully verified our own observations. These authors also state that they were able to obtain dilatation with feeble stimuli, yet they call our attention to the fact, and it is here the practical point, that it was only in those cases in which the animal was not deeply etherized.

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[*] "Med. Times and Gazette," Dec. 19, 1874, p. 701.

[†] "Trans. of the College of Physicians of Philadelphia," Third Series, vol. i, 1875.

[‡] Virchow's "Archiv," vol. xxvii, 1863.

[#] Referred to by Kaplan, "Experimenteller Beitrag zur electrischen Erregbarkeit d. Glottismusculatur," etc. Inaugural Dissertation, Berlin, 1884.

[‖] "Monatsschr. für Ohrenheilkunde," etc., October, 1881, No. 10, p. 166.

[△] "Handbuch der Elektrotherapie," Leipsic, 1882, p. 472.

[◊] *Loc. cit.*

[*] "New York Medical Journal," July 4, 1885.

[†] "On an Apparently Peripheral and Differential Action of Ether upon the Laryngeal Muscles," "Brit. Med. Journal," August 23, 1886, p. 405.

The dilatation, it seems to us, should be ascribed to the action of the narcotic.

The strength of the current, however, is a factor in determining whether dilatation or closure is produced, and it is undoubtedly correct that *in certain stages of etherization*, as we shall hereafter demonstrate, abduction may be called forth by a weak stimulus, while a stronger stimulus, with the same amount of ether, will produce the ordinary result of closure. But we think it is impracticable to use strong stimuli in these or other studies in experimental laryngology.

In our investigations on the "ether-effect," conducted two years ago, the intensity of the currents used was always of the feeblest, and it therefore struck us as somewhat extraordinary that others who followed us should lay so much stress upon the fact that weak stimuli should be the cause of the opening of the glottis, which, in reality, as we had proved, was due to the effect of sulphuric ether.

Considering, therefore, the confusion, although it appears to us to be more fancied than real, that has slightly befogged this question, we have felt it incumbent upon us to rehandle the subject.

It may be well here to explain more in detail than we have hitherto done the terms we use to describe the different shapes the glottis may assume in response to electrical stimulation of the recurrent nerves. By *complete dilatation* we mean that both vocal processes of the arytenoid cartilages are rotated forcibly outward, the vocal bands, in marked instances, appearing to lie flat against the walls of the larynx, this extreme opening being maintained as long as the stimulation is kept up. By *mixed movement* we mean an opening in the posterior portion of the glottis and a contraction of the ligamentous portion in front, giving to the glottis a rhomboidal shape. This shape appears to arise in two ways —either by an active opening behind accompanied by an active closure in front, or simply by a *want* of *closure* behind and an active closure in front. The large development of the cartilaginous portion of the glottis in the dog should be borne in mind in interpreting these appearances. The agency by which the mixed movement is brought about is not perfectly understood. It would seem, in some instances, as if all the intrinsic group of muscles were responding equally to the stimulation except the lateral crico-arytenoids and the transversus; hence the closure in front and the opening behind; but, the lateral and transverse muscles not acting, the lozenge-shaped glottis is the result. By *complete closure* we mean close apposition of the ligamentous and cartilaginous portions of the glottis.

When we consider what a complicated and delicate organ the larynx is, being made up of so many cartilages which are freely movable on each other by means of the numerous muscles attached to them, the fibers of which run in every possible direction, it need not cause surprise that there should be occasional variations in the appearances of the glottis in different dogs following stimulation of the recurrents which may be due to some peculiarity of the nerve distribution or to unusual strength of some of the laryngeal muscles.

But of the general results in dogs we think there is not much ground for doubt or for any difference of opinion of practical value. Errors of interpretation may be lessened and the most trustworthy results obtained by placing a shielded electrode on each nerve five to eight centimetres below the cricoid cartilage, the effect of stimulation on the glottis being watched through the mouth, when both nerves are irritated equally and simultaneously.

Small and young dogs, in our experience, are much more satisfactory for experimental purposes than old or very large ones. The breed seems to be of no consequence.

Our present series of observations have been conducted on forty-two dogs, and comprise three hundred and twelve recorded experiments. Of these animals, twelve have been devoted to a study of the effects on the glottis of stimulating the nerves when the dog was under chloral, chloroform, or morphia, eighteen to the "ether-effect," seven to the local effect of ether upon the nerve-trunk, and five to "exhaustion" experiments.

We have stated that the normal effect of irritating the recurrent nerves of dogs is to *close* the glottis. This statement is founded upon the investigations of others, who have experimented with and without anæsthetics, and upon our own observations with small amounts of different narcotics.

The following experiments with chloral may be taken as a type of what occurs in the majority of cases when dogs are under small amounts of chloral, morphine, chloroform, or ether. These particular experiments are selected from a large number merely because some of our colleagues conducted the observations with us:

April 27, 1887.—Dr. Knight and Dr. Langmaid present. Medium-sized poodle bitch. Ether was first given until the femoral vein was exposed and a cannula tied into it, through which a 25-per-cent. solution of chloral was slowly injected. After this stage of the operation the animal had no more ether. The recurrent nerves were laid bare, and shielded electrodes placed upon them. The glottis was observed through the mouth. Stimulation of the nerves with the feeblest current was followed by a vibratory motion of the vocal bands, which, on increasing the intensity of the stimulus, passed into complete closure. Nothing resembling a dilatation or the mixed movement could be called forth in this dog.

Dr. Knight was present on another occasion, when a very small terrier bitch was the subject of experiment under similar conditions, and the results were identical in all respects. In no instance, in a chloralized dog, have we been able to elicit a complete dilatation, but the mixed movement has been seen in two cases. In one of these, Dr. Knight, Dr. Langmaid, and Dr. De Blois assisting, the dog was a very powerful animal, and, although the first few effects of stimulation were followed by closure, the mixed movement only was afterward called forth with all intensities. It would seem that this mixed movement was produced through a failure of the lateral crico-arytenoid muscles to respond to electrical stimulation, the other muscles acting equally. It may be that, as narcosis comes on, the lateral adductor is the first to lose its contractility, and, as the narcosis becomes more profound, the functions of the other adductors are also arrested, while the dilators hold out to the last.

Although we have not been able to produce complete dilatation with chloral or chloroform, it is not unlikely that, by pushing these drugs to extreme limits, we might, in certain cases, elicit such an effect. It is difficult to believe that sulphuric ether should be the only drug capable of calling forth abduction. We have succeeded in obtaining complete dilatation in a dog under an enormous dose (2–5 grammes) of morphine; but the condition of the dog under these circumstances can hardly be compared with that of the animal when a harmless dose of ether has been administered. It was with much surprise that, in the spring of 1885, we saw, for the first time, the glottis dilate under the effect of an irritation applied to the recurrent nerve; but we immediately surmised the reason, which subsequent researches by ourselves and others have shown to be correct. It may render this study clearer if we briefly review the circumstances of our first observation, and how we were led to what appeared to us the only possible conclusion, that the dilatation was brought about through the influence of sulphuric ether. Our experiments, which had already been quite numerous, were generally performed on dogs chloralized by intravenous injection. This means of producing anæsthesia was almost invariably employed for prolonged experiments. Ether, however, was given in the first stage of the operation. The dog in which we first observed a dilatation was etherized for the purpose of passing a thread through the recurrent nerve, after which the incision in the neck was to be sewed up, and the animal returned to his kennel for a few days before further observation. On looking for the nerve, it was not found in its proper anatomical situation; but two small nerves were discovered near by. As it was doubtful what these two branches were, it was considered prudent to irritate them, and, if the glottis contracted, we could then be certain we had the nerve we were in search of, and proceed with the operation. But, when the nerves were stimulated, we were greatly surprised to see a forcible dilatation, instead of the customary closure. The assistant in physiology, Dr. Warren, was requested to come and witness this unusual sight. The ether sponge had been removed from the dog since the beginning of the experiment, and by the time Dr. Warren was ready to look at the glottis the animal was somewhat out of its influence. At all events, on stimulating the nerve a second time, closure was manifested, instead of the dilatation so evident a few moments before. Here we had in the same dog, at a short interval, both a dilatation and a closure of the glottis. As all the conditions were the same, with the exception of the depth of the narcosis, the natural inference was that the amount of ether in the animal must be the cause of the dilatation. A large quantity of ether was again administered, and the abduction again clearly demonstrated.

Our first idea was that the "ether-effect" was central. To test this hypothesis the recurrent was divided, and the irritation applied to its peripheral end. The glottis dilated after section of the nerves as well as before.

With regard to the fact of the "ether-effect" in dogs we have little to add. Our previous experiments were based on so many confirmatory observations on different dogs that the fact was clearly established. The facility with which a dilatation may be elicited depends upon the susceptibility of the dog to the drug, the intensity of the irritation, and the amount given. It differs in different dogs. In the majority complete dilatation may be elicited; in other instances the mixed movement only is obtainable. In two dogs, in our experience, the effect has been negative; in these cases there was neither contraction nor dilatation on stimulation of the recurrent nerves, even in the most profound stage of etherization, but with slight anæsthesia closure took place.

(To be continued.)

VAGINAL HYSTERECTOMY IN AMERICA,

WITH REPORT OF TWO CASES.

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(Concluded from page 38.)

There are several interesting features in this case, which may be summed up as follows:

1. The advance which the disease had made before the operation was resorted to. The cervix was so much involved that it broke down when grasped by the forceps, and the right wall of the vagina also was somewhat affected. Still, at the expiration of one year, no return had manifested itself. (In an article entitled "The Limitation of Vaginal Hysterectomy," read before the American Gynæcological Society in 1884, by Dr. Paul F. Mundé, he gives statistics of eighty-two operations, in thirty-two of which, or 39·2 per cent., the patients remained free from recurrence two years after the operation.)

2. The manner of operation. From what I can gather from the literature of the subject (especially from the German), the usual position for operation is upon the back. Both anterior and posterior vaginal connections are severed, and the uterus is retroverted and brought into the vagina. It seems to me that the lateral (Sims's) presents many advantages over the dorsal or lithotomy position. In the former, fewer assistants and instruments are required to keep the parts in view, and the hæmorrhage can be much better controlled, while the blood, escaping from the most dependent portion of the vagina, does not obstruct the view of the parts. Dr. Mundé, in summing up the report of his cases, stated that in the future he should operate with his patient in the gluteo-dorsal position in preference to the Sims, his main reason being the difficulty of doing the operation in case of narrow vagina. I can not see the advantage of the dorsal position, with the numerous retractors, even under such circumstances, for the narrow or contracted condition of the vagina can be largely

overcome by thoroughly packing it with antiseptic cotton for a few days before the operation.

3. With the patient in the dorsal position, one of the most troublesome features of the operation is to keep the intestines and bladder out of danger. In Sims's position both bladder and intestines are carried out of the way by force of gravity, and thus are less liable to be wounded. Again, by anteverting the uterus and drawing it down, while the posterior vaginal connection still remains intact, there is less liability of necrosed tissue and poisonous fluids coming into contact with the intestines or pelvic peritonæum, while the danger of concealed hæmorrhage from bleeding vessels behind the Sims speculum (as happened in Dr. Mundé's case) is avoided; and certainly, after the uterus has been removed, the operator is better able to detect any portions of diseased tissue which may not have been included in the first incisions.

These advantages of the side position tend to shorten considerably the actual time required to perform this operation, which is an item worth considering. In my own case, although the woman had borne children, the vagina was not voluminous; still, the operation was completed without haste in one hour and forty minutes.

4. As to the best method of leaving the wound after operation. In this case I did not close any part of the wound with sutures, but left it to heal by granulation (and how far may this method have been the cause of the inflammatory adhesions which resulted in obstruction of the bowel and production of the fistula?), which is a rare occurrence after such an operation. Martin, in his last work, reports sixty operations for various forms of disease (carcinoma, sarcoma, epithelioma, and adenoma), in one of which an entero-vaginal fistula resulted, but in that case the cancer had involved the tissues around the uterus. His method of treating the wound is by closely uniting the peritonæum and the vagina with interrupted sutures, applied with a sharply curved needle, the application of the sutures following closely upon each incision so as to avoid hæmorrhage. They are passed through the vaginal wall and peritonæum, returning on the same side so as to ligate all bleeding vessels, and at the same time fasten the peritonæum around the circumference of the wound. The angles of the wound are then brought together with interrupted sutures. He concludes that a drainage-tube is necessary for a good result, and uses the soft rubber tubing. At stated intervals he cleanses the vagina, but does not inject water into the peritoneal cavity. The cut surfaces heal by granulation, and he afterward removes the peritoneal-retaining sutures carefully. In my case, as before stated, the wound was left to heal by granulation at the same time that free drainage was secured, and it healed perfectly in twenty days. The surgeons who have done vaginal hysterectomy have each his own peculiar way of treating the wound after operation. While one stitches the wound closely around a drainage-tube, another is content to leave the wound to heal by granulation. But, as statistics show a decrease of mortality in proportion to the increase of our knowledge of antiseptic surgery in this operation as well as in others, the main feature of the after-treatment proves itself to be *antisepsis*, and for statistical evidence of this fact the reader is referred to a valuable paper by Dr. Sarah Post in the "American Journal of the Medical Sciences" for January of the past year.

5. This case is also of interest because it demonstrates how the intestines may be treated, in accidents to the latter, during or following such operations or abdominal section for any purpose, even after a lapse of six months, without a proper movement.

Since writing the preceding portion of this paper I have done the operation a second time, and, although not with such good success (it having terminated fatally), I desire to place a short report of it before you, in order to call your attention to some features of the case which to me have been most instructive.

The patient was Mrs. Marie B., German, aged forty-eight years, married twenty years, the mother of ten children; no miscarriages; widow eight years. With her first four children she had a physician; the last six a midwife was in attendance. She ceased to menstruate at the age of forty-five, and remained well for nearly two years. Then she commenced to have pain through the back and pelvis, which continued until the time I saw her. For the last five months it had been severe, and accompanied with frequent hæmorrhages *per vaginam*. She first came to my clinic at the Northeastern Dispensary, December 20, 1886, when I made a diagnosis of malignant disease of the uterus, involving the cervix and extending into the body. I sent her to the Post-graduate school, where Professor Bache Emmet confirmed my diagnosis. She was admitted into the hospital on the 26th, and on the morning of the 28th of December the operation was done. During the two days that she had been in the hospital the vagina had been packed as closely as she could bear with an iodized glycerin tampon. This served to prevent hæmorrhage, remove the bad odor, and dilate the vagina to a considerable extent.

The operation was done in the same manner as described in the previous case, excepting that after opening the anterior *cul-de-sac* I took the precaution to ligate each uterine artery before attempting to antevert the uterus. My trouble then commenced, for as I passed my finger over the fundus uteri I discovered that it contained a small fibroid in each horn, which widened the surface to such a degree as to make it impossible to bring the body of the uterus into the vagina. I anteverted it and brought the right horn, containing the largest fibroid, into the vagina, transfixed and ligated beneath the fibroid, and cut the latter away. I then allowed the uterus to fall back into the pelvis, turned it upon itself, and brought the left horn down, and soon succeeded in bringing the body through the incision into the vagina, but in my efforts to do this I lacerated the tissue considerably by making too much traction with the forceps. This promoted considerable bleeding from the left ovarian artery, which I readily controlled by casting the elastic ligature around the body close to the vaginal junction. Finding I had perfect control of all hæmorrhage, which facilitated my work, I again severed the body close to the ligature. Up to this point the operation had been very difficult, and much time had been consumed owing to the fact that the vagina was narrow, making work exceedingly difficult; and this difficulty was further complicated by a whip-cord-like band of peritonæum, which extended from the lower and posterior surface of the right broad ligament up the side of the pelvis to the true pelvic brim. This band prevented my being able to draw the uterus down more than an inch, and obliged me to do the entire operation with it high in the pelvis. Having removed the major portion of the body, I transfixed and again ligated

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
I.	Dr. Anderson, San Francisco.	56	Carcinoma of cervix and body.	Circular incision of vaginal vault with a galvano-cautery.	October 26, 1881.	Recovery, with a vesical fistula.	February, 1882; no return of the disease.	
I.	Dr. W. H. Baker, Boston. Not published.	54	Carcinoma of body of uterus.	Anterior, then posterior, incision; uterus retroverted; section lig'tures; wound dressed openly.	March 24, 1885.	Recovery.	Disease returned in October, 1885; died May 25, 1886.	
I.	Dr. A. C. Bernays, St. Louis.	52	Epithelioma, involving both lips of the portio vaginalis.	....	Dec. 12, 1883.	Recovery.	November 24, 1886; in good health.	Had peritonitis lasting only a short time.
II.	"	41	Epithelioma of cervix and extending into the body	....	May 10, 1884.	Recovery rapid.	December, 1886; no return.	Uninterrupted recovery.
III.	"	42	Epithelioma of cervix and body; organ much enlarged.	....	March 26, 1885.	Recovery rapid.	November 1, 1886; no return of the disease.	Had some peritonitis with suppuration; tubes and ovaries removed with the uterus
IV.	"	50	Epithelioma of cervix, involving some of vaginal vault.	....	June 5, 1885.	Recovery rapid.	July 4, 1886; examined and found no return of the disease.	
V.	"	36	Epithelioma; the entire posterior lip of c'rvix gone; growth extended into the body.	....	August 1, 1885.	Recovery rapid.	December 3, 1886; slight suspicious thickening in the cicatrix.	Had secondary hæmorrhage requiring ligation of small artery on the fifth day.
VI.	"	34	Epithelioma of cervix, extending to the internal os.	....	November 4, 1885.	Recovery rapid.	December 4, 1886; no return.	
I.	Dr. J. G. Blake, B'st'n. "Boston Med. & Surg. Jour."	42	Carcinoma of the cervix.	Circular incision; ligaments ligated *en masse;* uterus removed without version.	January 28, 1880.	Death in 12 hours from shock.	....	The parts were so vascular the loss of blood was great.
I.	Dr. Wm. T. Bull, New York, "New York Med. Journal."	45	Epithelioma of the cervix uteri.	Circular incision; uterus anteverted; broad ligaments tied in sections; open dressing.	February 19, 1883.	Recovery rapid.	In October, 1883, the disease reappeared, and she died in eighteen months.	Vagina tamponed with peat-bags.
II.	"	36	Epithelial growth upon the cervix; cauliflower.	"	August 16, 1884.	Recovery.	March, 1886. Death from carcinoma of the peritonæum.	Five days before the hysterectomy the cauliflower cervix was removed.
III.	"	35	Epithelioma of the cervix, extending to internal os.	Circular incision; uterus retroverted; broad ligaments tied in sections.	September 24, 1884.	Recovery.	September, 1886, she remained well.	One suture placed across the vaginal wound.
IV.	"	52	Epithelioma of the cervix.	Posterior and lateral incision; uterus retroverted; open dressing.	July 4, 1886.	Recovery.	....	Right broad ligament tied in sections; left broad ligament cut with cautery.
V.	"	43	Cauliflower of the cervix.	Uterus pulled down with silver wire and cut away from rect'm and bladd'r.	August 27, 1886.	Death August 27, 1886.	Two transfusions of saline fluid before death.	Hæmorrhage in mesorectum.
I.	Dr. Burke, Connectic't. Not reported.	37	Sarcoma of cervix; cauliflower.	Uterine arteries ligated; uterus drawn down; *cul-de-sac* opened; ligaments tied *en masse;* uterus severed & drawn down; vagina stretched.	November 11, 1882.	Recovery rapid.	During the present month, and found in good condition.	The cervix was amputated six months previous to the operation for hysterectomy.
I.	Dr. Cushing, San Francisco. "Am. Jour. of the Med. Sci.," 1882.	47	Carcinoma of the cervix uteri.	Sims's position; uterine arteries ligated; uterus separated from bladder; ovarian arteries tied; uterus retroverted; vaginal wound left open.	September 4, 1881.	Recovery rapid.	One year after operation.	Disease returned in six months and caused death in one year.
I.	Dr. B. F. Dawson, New York. "Am. Journal of Obstetrics."	..	Diffuse sarcoma of the mucous membrane of the uterus.	Circular incision; uterus drawn down and not ante- or retroverted, owing to presence of a fibroid in the body.	April 7, 1885.	Death on 3d day from fever.	The uterus contained two fibroids, one interstitial.	Autopsy showed fatty degeneration of the kidneys.
I.	Dr. De Vecchi, San Francisco. "Western Lancet" 1883.	53	Epithelioma of the cervix and vagina.	Incision by galvano-cautery wire; mass ligatures; uterus retroverted.	March 1, 1883.	Rapid rec'very; died 2 years and 3 months after.	She was under observation till death; the disease showed evidence of return in one year.	The disease involved abdominal organs; patient died in great agony.
II.	"	50	"	"	No date.	Rapid recovery.	....	The disease returned in 6 months, and the patient died before the 6th mo. had passed.
I.	Dr. A. Palmer Dudley, N'w York.	44	Epithelioma of the cervix and right vaginal wall.	Anterior vaginal opening; uterus anteverted; ligaments tied in sections; open dressing.	December 20, 1883.	Recovery rapid.	One year after operation; no return of the disease.	Death from laparotomy for entero-vaginal fistula.

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
II.	Dr. A. Palmer Dudley, N'w York.	48	Epithelioma of the cervix and body.	Anterior vaginal opening; uterus anteverted; ligaments tied in sections; open dressing.	December 28, 1886.	Death in 39 hours from acute nephritis.	....	Complete suppression of urine twelve hours before death.
I.	Dr. E. C. Dudley, Chicago. Not reported.	..	Carcinoma of the cervix and extending into the body of uterus.	Czerny's method of operation.	May 23, 1882.	Died in four hours from shock.		
I.	Dr. J. W. Elliot, Boston. "Bost'n Med. & Sur. Jour.," July 22, 1885.	39	Epithelioma of the cervix uteri.	High amputation; anterior *cul-de-sac* opened; uterus anteverted; vaginal wound tamponed with iodoform gauze.	May 12, 1885.	Death on the 5th day from hæmorrhage.	....	This patient had high amputation in January, 1885; was again curetted in March; death caused by hæmorrhage from torn adhesions.
I.	Dr. P. F. Eve. "Am. Jour. of the Med. Sci.," 1850.	28	Encephaloid of apparently entire uterus and upper part of vagina.	Forcibly drawn down and removed with a knife.	April 16, 1850.	Recovery rapid.	Two months after operation; growth found returning in the scar.	Death July 22, 1850, three months and one week after the operation.
I.	Dr. C. Fenger, Chicago. "Trans. of the Am. Gynæc. Society."	40	Carcinoma of cervix and lower half of the body of uterus.	Uterus anteverted; broad ligaments tied in two sections; vaginal wound closed with silk.	September 19, 1881.	Recovery in four weeks. Died in May, 1885.	The disease returned in the posterior wall of bladder in 1884.	A fistula made in the bladder at time of operation was closed with silk; the latter was a nidus for stone passed six months later.
I.	Dr. M. Franklin, Philadelphia.	40	Epithelioma of the cervix uteri.	....	November 11, 1882.	Death on fifth day from shock.	... .	Autopsy gave no evidence of peritonitis; only a few lymph b'nds about the intestines, at the seat of the operation.
I.	Dr. Goodell, Philadelphia.	50	Epithelioma of the cervix uteri.	Anterior, then posterior incision; uterus retroverted; ligaments tied in sections.	November 13, 1883.	Died November 15, 1883.	Death caused by septicæmia.	Iodoform tampon used, and vaginal wound left open.
II.	"	64	"	"	March 3, 1886.	Recovery.	Died October 25, 1886, from vaginal hæmorrhage.	
I.	Dr. R. J. Hall, New York. Not reported.	35	Epithelioma of the cervix and extending into the body of uterus.	Operation made for hæmorrhage; Douglas's *cul-de-sac* opened; uterus retroverted; open dressing; ligaments tied in three sections.	August, 1886.	Recovery.	Seen last November; she was then well.	Cervix amputated six weeks before the operation; the intestines prolapsed during the operation.
I.	Dr. J. B. Hunter, New York. Not published.	50	Carcinoma of cervix and body.	Lithotomy position; anterior incision, then posterior, and uterus anteverted; section ligature of ligaments.	October 24, 1885.	Death same evening from shock.	....	This operation was very difficult, owing to patient's fleshiness and narrow vagina.
I.	Dr. E. J. Ill, New Jersey. "N.Y. Med. Jour.," Feb. 13, 1886.	42	Cauliflower of cervix.	Curetted and stitched wound up; incision on right side first; anterior *cul-de-sac* opened and uterus anteverted; then left side treated.	May 30, 1885.	Recovery.	April 11, 1886; she shows evidence of return of the disease.	November 17, 1886, still in good general health.
I.	Dr. J. Taber Johnson, Washingt'n	27	Epithelioma of the cervix extending into the internal os.	Anterior, then posterior, *cul-de-sac* opened; uterus retroverted; section ligatures; iodoform dressing.	June, 1885.	Death in 4 days from peritonitis.	....	Four months before the operation the diseas'd cervix was curetted and cauterized.
I.	Dr. Fr'd Lange, New York. "Report of Surgical Society."	60	Carcinoma of the cervix extending into the body.	Martin's method; uterus retroverted; ligaments tied in sections.	November 11, 1886.	Recovery rapid.	February 5, 1887; perfectly well.	
I.	Dr. L. C. Lane, San Francisco.	..	Epithelioma of the cervix uteri.	....	November 11, 1878.	Recovery rapid.	One year after, when she had ascites, and died soon afterward.	Autopsy showed no return of the disease in the pelvis, but the mesenteric glands contained cancerous deposits.
II.	"	..	"	....	1878.	Recovery rapid.	Two months after operation.	Death from pelvic abscess, which burst internally.
III.	"	..	"	....	1884.	Recovery rapid.	Still living and doing well.	
IV.	"	..	"	....	1885.	Died in 48 hours from septicæmia.		
V.	"	..	"	....	1885.	Died 1 week later from peritonitis.		

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
VI.	Dr. L. C. Lane, San Francisco.	. .	Epithelioma of the cervix uteri.	....	1886.	Recovery.	Four months after operation.	There was a speedy return of the disease.
VII.	"	. .	"	....	1886.	Died two days afterward.	....	The autopsy revealed retro-peritoneal hæmorrhage of some standing.
VIII.	"	. .	"	....	1886.	Rapid recovery.	January 1, 1887.	Well at the present time.
IX.	"	. .	"	....	December 4, 1886.	Rapid recovery.	....	Well at the present time.
I.	Dr. W. H. May, Stockton, Cal.	. .	Carcinoma of the cervix uteri.	Circular incision; Douglas's *cul-de-sac* opened first; uterus retroverted; ligaments tied in three sections.	September, 1882.	Death on the fifth day.	....	Cause of death unknown.
I.	Dr. Paul F. Muudé, N'w York. "Tr. Am. Gynæc. Soc.," 1884.	43	Epithelioma of the cervix uteri.	Sims's position; anterior, then posterior incision of vagina; uterus retroverted; then ligaments tied in three sections.	October 10, 1883.	Recovery.	The disease returned in nine months.	The ovaries and tubes were removed with the uterus.
II.	"	30	Sarcoma of the cervix uteri.	"	November 9, 1883.	Death in 40 hours from internal bleeding.		
III.	Dr. Paul F. Mundé, N'w York. "N'w York Obst. Soc.," 1884.	47	Epithelioma of the cervix ingrafted upon lips of an old lacerated cervix.	Lithotomy position; open'd first *cul-de-sac;* retroverted uterus; ligaments tied in three sections.	January 30, 1885.	Death in 30 hours from shock.	....	Although this operation was more difficult than the previous, he prefers the lithotomy position.
I.	Dr. Polk, New York.	27	Epithelioma of the cervix and body.	Patient upon the back; circular incision of vaginal vault; uterus retroverted.	July 14, 1884.	Death on the sixth day.	On the sixth day.	Cause of death, septic peritonitis.
II.	"	31	Epithelioma of the cervix and body, the uterus movable.	Operation similar, but the uterus anteverted and removed.	January 6, 1886.	Recovery rapid.	Three months after operation.	The disease returned in three months.
III.	"	57	"	Operation similar, but the uterus retroverted.	March, 1886.	Recovery rapid.	....	Patient now well.
IV.	"	56	"	Operation similar, but the uterus anteverted.	May 27, 1886.	"	Seen last September, 1886, and disease found returning.	This was a very fleshy patient, with a narrow pelvis.
V.	"	55	Epithelioma of cervix and body, and the vaginal wall posteriorly.	As in previous cases, but he was obliged to antevert the uterus.	November, 1886.	Death in 14 hours from shock.	....	The autopsy showed implication of the glands of the broad ligaments, evidence that the disease was not all removed at the time of the operation.
VI.	"	45	Epithelioma of the cervix extending to the internal os.	On the back; anterior and posterior incisions with cautery; high amputation of the cervix, then the body anteverted.	December 18, 1886.	Recovery rapid.	....	Patient doing well at present.
I.	Dr. Reamy, Cincinnati.	. .	Epithelioma of the cervix and one half of the body of uterus.	Uterus anteverted; after ligating uterine arteries and broad ligaments, stitched the peritonæum to vaginal wall.	August, 1886.	Death in 48 hours from shock.	....	Long ligatures were left, and vaginal wound left open.
II.	"	47	Sarcoma of the body of the uterus, not involving the cervix.	"	November 8, 1886.	Recovery in 4 weeks.	....	The temperature never rose above 101°, or pulse above 108.
I.	Dr. W. E. Taylor, San Francisco. Not reported.	48	Carcinoma of the cervix.	Circular incision; posterior *cul-de-sac* opened; uterus retroverted; section ligatures; vaginal wound sutured.	August 14, 1881.	Recovery rapid.	The disease returned in April, 1882; death took place in August, 1882.	
II.	"	51	Carcinoma of cervix and vaginal wall.	"	August 19, 1881.	Death August 20, 1881.	....	In both these cases there was prolapse of the intestines into the vagina during the operation.
I.	Dr. Thomas, New York. Not published.	59	Epithelioma of the cervix extending into the body.	Uterus retroverted thro'gh Douglas's *cul-de-sac.*	October 5, 1882.	Died on 7th day from septicæmia.	....	The patient was much exhausted prior to the operation.
I.	Dr. Van Ramdohr, New York.	30	Epithelioma of cervix extending to internal os.	Sims's position; amputation of posterior lip of cervix; ligature of uterine arteries; uterus anteverted; iod. tampon.	July 16, 1886.	Recovery.	December 26, 1886; vaginal roof feels hard and suspicious.	Ovaries and tubes were not removed.

No.	Name of surgeon.	Age.	Description of case.	Manner of operation.	Date of operation.	Result.	When last seen.	Remarks.
I.	Dr. Von Hoffman, San Francisco. Not published.	37	Carcinoma of the cervix existing four months.	Bladder separated from vagina first; then Douglas's *cul-de-sac* opened, and uterus retroverted.	October 25, 1883.	Recovery rapid; died January 14, 1884.	....	Post mortem showed carcinoma of omentum and peritonæum, but no return in the pelvis.
II.	"	56	Carcinoma of body of uterus, existing six months.	" Uterus retroverted; vaginal wound left open.	May 1, 1886.	Recovery.	Well at the present time.	
III.	"	50	Carcinoma of cervix.	"	Fall of 1884.	Recovery.	....	History of this and the following patient lost; they came from a distance, went home well in four weeks, and have not been heard from since.
IV.	"	53	"	"	Fall of 1884.	Recovery.	....	
I.	Dr. R. F. Weir, New York. "Trans. N. Y. Surgical Society."	40	Epithelioma of the cervix uteri; cauliflower.	Lithotomy position; bladder separated first; uterus anteverted; broad ligaments tied in three sections; vagina closed with catgut.	November 10, 1884.	Recovery.	April 27, '85; the growth had commenced to return.	
II.	" Not published.	45	Epithelioma of cervix uteri.	" Bladder perforated by a retractor.	May 16, 1885.	Death from shock and loss of blood.	Patient only lived a few hours.	Uterus much enlarged, complicating the operation.
I.	Dr. Wile, Conn. "New England Med. Monthly," Feb. 15, 1883.	49	Carcinoma of the cervix uteri.	Anterior incision; silk ligature carried over right broad ligament; then posterior vaginal wall opened, and left side treated.	November 13, 1882.	Died November 16, from shock.	She had a sharp hæmorrhage from the right uterine artery, and it was ligated the second time.	During the operation the intestines prolapsed into the vagina.
I.	Dr. C. M. Wilson, Phila-d'lphia. Not published.	50	Carcinoma of an inverted uterus.	Divided uterus longitudinally; tied arteries with catgut, and touched stump with cautery.	September, 1886.	Recovery.	December 14, 1886; still in good health, with no evidence of return.	The inversion had existed for six years.

each broad ligament, slipped my elastic ligature, and cleared the remaining portion of the uterus from the vagina. The small sponge, placed in the pelvis after anteverting the uterus, had prevented any blood entering among the intestines. The vagina was thoroughly cleansed, the sponge carefully withdrawn, and the wound filled with iodoform gauze. The patient went to bed with a weak pulse, but responded readily to stimulants and reacted rapidly, so that by 8.30 P. M. the pulse was good at 90, and the temperature 99·6°. She was given hot water to drink, with brandy as a stimulant, and passed a very comfortable night. The urine was drawn every four hours, about two ounces being obtained each time. At 11 A. M. the next day, the pulse and temperature having gone up rapidly since morning, I feared hæmorrhage into the pelvis and removed the tampon, but found the latter sweet and no evidence of bleeding. I then passed the catheter and got no urine. Wondering what the cause could be, I was informed by the house surgeon that he got but very little from the last passage of the catheter. Our efforts were then directed toward reducing the temperature and relieving the kidneys. The former I succeeded in with hypodermic injections of hydrochloride of quinine and urea and the application of the cold-water coil; but, although twenty minims of tr. digitalis and twenty grains of bromide and acetate of potassium were each given every hour, with hypodermic injections of brandy as a stimulant, the kidneys would not respond, and the pulse gradually weakened and ran higher until death took place, thirty-eight hours after the operation.

After much persuasion, permission for an autopsy was obtained, and Professor Porter, pathologist to the school, kindly furnishes me with the following excellent report:

The necropsy, which was limited to the abdominal cavity, was made about twelve hours after death. The peritonæum was carefully examined and found to be absolutely free from any inflammatory action. The pelvic cavity contained no blood or serum, and the stump of the operation was free from suppuration and in a reparative condition.

The spleen was small and fissured, but otherwise normal.

Kidneys.—Both glands were enlarged, weighing six ounces (170 grammes) each. They were soft and of a whitish-yellow color. Their capsules were non-adherent to the underlying renal tissue, the surface of which remained perfectly smooth after enucleation. The mucous membrane in both pelves presented a marked congestion and puffiness, which would indicate the existence of an acute pyelitis.

The cut surface of the glands showed the cortex to be thickened, pale, granular, and fatty, but the markings were straight. Upon microscopical examination, the epithelium of the uriniferous tubules was found to be in a state of granular and fatty metamorphosis, many of the tubules being occluded by the desquamating epithelium, hyaline, finely and coarsely granular and fatty casts. There was no inflammatory change and no active change in the intertubular tissue; but the appearances were those of a rapidly progressing acute parenchymatous metamorphosis of the kidneys, which had existed for a day or two only. The few drops of urine obtained at the time of the necropsy gave every evidence of the existence of the above lesion. A small lipoma projected from the surface of one kidney.

This form of renal lesion is of comparatively frequent occurrence in connection with severe surgical operations, and explains many of the so-called septic symptoms without suppuration, the erroneously named septic symptoms being due to a uræmic toxæmia from non-elimination.

The liver was the seat of a marked interlobular cirrhosis. There was a small lipoma in the omentum, near the splenic flexure of the colon, that had undergone fibrous and cavernous metamorphosis. Sections made from the uterine neoplasm were found to be composed largely of fibrillated connective tissue and non-striated muscle fibers. In some places this mixed tissue contained rings of cylindrical epithelium, commonly described as the cauliflower growth, or cylindrical-celled epithelial carcinoma, while in other sections the perivascular or lymphatic spaces were dilated into alveolar cavities, and were packed full of irregular epithelial cells without intercellular substance, and without any definite order of arrangement, this appearance being that characteristic of a scirrhous carcinoma.

For a full description of the pathology and development of this form of renal lesion the reader is referred to Dr. Porter's work, published by William Wood & Co.

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

(*Continued from Vol. XLV, page 713.*)

Besides the general impaired results from the presence of Bright's disease above enumerated that strongly predispose to the occurrence of general or special organic and functional insufficiency when the system is subjected to an additional and sudden functional strain, other and special consequences of the hæmic results referred to occur to increase the labor and promote the exhaustion and insufficiency of the organs directly involved and functionally obstructed by the pneumonic process. On account of the impaired chemical and nutritive conditions of the blood in Bright's disease, an imperfect as also a more difficult hæmatosis is occasioned; as stated, less oxygen is taken into the system with each inspiration, and less carbonic acid is discharged with each expiratory act. This diminished result of each respiratory act so far occasions the necessity for a greater number of respirations in a given time, and thus favors, by increasing an already overtaxed action, pulmonary motor exhaustion, insufficiency, and danger of death from apnœa. Again, a difficult and imperfect respiratory (hæmatosic) action tends to delay circulation through the pulmonary capillaries, and to that extent increases resistance to the action of the right heart, and assists to exhaust its energy, and thus promotes its insufficiency and failure. Furthermore, the impaired and degenerative results occurring in and throughout the arteries mentioned constitute an increased circulatory resistance to be overcome by the circulatory energies, and, though this result mostly affects the left heart, yet, as the burden of the *pulmonary circulation* is thereby thrown more entirely upon the right heart, its exhaustion, under such added difficulties as a pneumonia causes, is also promoted.

It is apparent from the foregoing that the more prominent effects of Bright's disease in the system *are organic asthenia* and an increased tax upon functional action, and that they tend in a special manner to impair the energy, tone, and sufficiency, functionally speaking, of the lungs and heart.

Hence, I hold that the prominence of asthenia as a final result of Bright's disease justifies the assumption that it is the principal complicating element of that malady as it influences the prognosis of a concurrent acute pneumonia. And this inference would seem to be further justified by two facts: the frequency of cardiac failure as a cause of death in pneumonia on the one hand, and the clearly exhausting consequences of Bright's disease upon the cardiac energy on the other.

But it may be objected that cardiac asthenia is not a prominent or special result of Bright's disease, inasmuch as the heart hypertrophies in that affection, and should, therefore, if it does not become stronger and more capable, remain as strong and enduring as under normal conditions. It is to be admitted that the heart steadily and progressively hypertrophies in the inflammatory and cirrhotic forms of Bright's disease, and also, but less frequently, in the amyloid kidney; but, notwithstanding, it is not stronger or more able to contend with a pneumonic obstruction on that account. It is not more able, first, because such hypertrophy takes place mostly in the left side of the organ, and does not correspondingly increase the energy of the right side, which principally has to do with such an obstruction; and, second, because, though hypertrophy may be equal in both sides of the organ, its enlarged muscles soon (and at the advanced stage when pneumonia is likely to occur this is already accomplished) take on degenerative impairment and dilatation, and are then not strengthened but weakened. Hence the general and special deductions reached are not invalidated by the fact that hypertrophy occurs, and it must remain, therefore, that asthenia, as regards its influence upon the result of acute pneumonia, is the complicating element of Bright's disease. Furthermore, that the asthenia resulting from Bright's disease is the essential element of that affection that dangerously complicates pneumonia is evident from the existing vaso-motor debility present in the former, and the frequent occurrence of œdema of the lungs in the latter, when Bright's disease is present.

The therapeutic indication for the treatment of pneumonia, then, when complicated by Bright's disease, is, as it is in connection with other debilitating conditions, for an early recourse to tonics and support.

Emphysema of the lungs is the complication next of importance. According to the English statistics, it causes death in 23 per cent. of the cases it complicates. Naturally this disease promotes death in pneumonia by predisposing to the occurrence both of apnœa (pulmonary functional insufficiency) and right cardiac exhaustion and insufficiency. That both of these results, in connection with acute pneumonia, are predisposed to by the presence of pulmonary emphysema is a clear inference from the character of its morbid anatomy, and from the evident effect of such morbid anatomical results upon the organs and functions placed in jeopardy by the development of a pneumonic process. The morbid anatomy of pulmonary emphysema comprises the atrophy and destruction of a varying amount or extent of the vesicular pulmonary structure, and especially of vesicular septa, and of a corresponding number of pulmonary capillaries. To the extent that the vesicular structure is destroyed the capacity of the lungs to aërate the blood is lessened, and, when they are further inhibited by the sudden development of a pneumonic process, the two causes favor a fatal apnœa, especially if a collateral congestion should concur. Also to the extent that the pulmonary capillaries, taken as a whole, suffer a diminished capacity from an emphysematous atrophy of any considerable portion of their number, their capacity to circulate the systemic venous blood through the lungs as fast as it arrives by the afferent vessels is lessened; and when there occurs a further diminution of pulmonary vascular lumen on account of a suddenly developed pneumonic obstructive process, the greater stegnosis thus brought about adds to the resistance to be met by the right heart, and so far promotes its exhaustion and functional failure. The therapeutical indications derived from the presence of an emphysema of the lungs with pneumonia are, when apnœa is threatened from the occurrence of a collateral congestion, mainly, in addition to the other causes, for venesection, and, when stegnosis is causing heart failure, for venesection and cardiac tonics.

Chlorosis, according to the English statistics, when it occurs with acute pneumonia, proves quite as fatal a complication as emphysema of the lungs. We can readily understand how it is so, the effects of the two complications being essentially the same, but from different causes. To the degree that chlorosis exists, and the blood is deficient, particularly in red blood-globules—carriers of oxygen—dyspnœa is a consequence, and, occurring in addition to the pneumonic dyspnœa, may also readily be the cause of a fatal apnœa.

Again, the greater the dyspnœa occasioned by (1) pneumonia and (2) chlorotic blood, the greater is the necessity for an increased rapidity of circulation, which increase of labor tends to the development of exhaustion both of the respiratory movements and of the cardiac forces. And thus here, again, where a fatal result occurs, asthenia is its direct cause. Hence the indication for an early tonic treatment is most apparent.

Hypertrophy and dilatation of the heart were present in three of the Bellevue Hospital cases (Loomis), and come next to be considered. Where these conditions are present in the left heart only, it is difficult to understand how they can affect the prognosis of acute pneumonia, as that side of the organ, relative to the obstruction occasioned by its local process, is beyond its site, and not affected by it. But where those morbid conditions affect the right heart—not often met with—then weakening results; and especially those of dilatation, as regards the capacity of the heart to withstand the pneumonic stress, are directly bad. Dilatation of cardiac muscle indicates its previous overtax and an already enfeebled state, and therefore unfavorable results, when they occur from this complication of pneumonia, are beyond doubt due to cardiac asthenia. The therapeutic indications from this condition are to relieve the obstruction to the right heart by the administration of circulatory sedatives, which lessen pulmonary stress, and to support its action by tonics.

Peritonitis, which was present in two of the Bellevue cases, when present (which is not often, generally speaking, except in the puerperal form), if acute, and the resulting abdominal tympanites is great, may, by causing upward pressure against the lungs, cripple their action in the same manner as an extensive pleuritic effusion, and thereby promote respiratory or cardiac insufficiency. The therapeutic indication from this condition is (1) to relieve the tympanites, and for that, if not otherwise accomplished, puncture should be resorted to; and (2) to afford cardiac and respiratory support.

Finally, *fibrinous bronchitis*, present once in the series we are examining, complicates pneumonia by rendering the pulmonary movements more difficult, and thereby, and to the same degree, favoring a slower hæmatosis or an increase of the pulmonary (respiratory) and circulatory tax. These effects, in addition to the similar resistance of a pneumonic process, may seriously promote exhaustion and asthenic insufficiency of the right heart, and thus be a means of death.

As a conclusion from the foregoing study we have seen, as it was premised we should, that the causes of death arising in connection with the recognized complications of pneumonia are essentially the same, and that this common resultant is asthenia. Moreover, that asthenia simply is the essential cause of the greater mortality resulting from acute lobar pneumonia in the presence of complications, is evident from the following facts deduced by this study: 1. Because the most natural effect of the presence and action of the various complications of pneumonia *is to increase resistance to, and promote the exhaustion of, the heart and lungs*, those organs whose functional actions are directly endangered by the sudden development of a pneumonic process in the latter, *but upon whose continued functional sufficiency a favorable result almost wholly depends.* 2. Because, of all the diseases which may concur with acute pneumonia, *those only* are recognized *as complications* that act, by their results, *to increase such resistance, and thus to promote such functional exhaustion or insufficiency.* 3. Because those complications that manifestly cause *the greatest resistance to the functional action and sufficiency of the organs mentioned*, as endocarditis and pericarditis do to the action of the heart, and, to a lesser degree, as pleurisy does to the action of the lungs, and those which develop the more profound general and local asthenia, as chronic alcoholism and Bright's disease, and, in the comparative ratio of their injurious action, *are those that, as statistics show, cause the greatest fatality* when they are complications. And, lastly, because the relatively injurious effects of complications, as shown by statistics, *closely accord with their evident capacity for increasing resistance to functional action* and for promoting its debility and insufficiency.

Therefore, having determined, from a study of their effects and action, how complications of pneumonia act to promote or influence fatal results from that malady, and having determined that such fatal influence *is a concurrent or promoted functional asthenia* amounting to insufficiency, I now again return to the study of *age* as a prognostic condition of that disease.

(*To be concluded.*)

The Dipnoan Brain.—Under this title, the "American Naturalist," for June, publishes an abstract of an interesting paper "On the Brain of Zeratotus, with Remarks upon Classification and the General Morphology of the Vertebrate Brain," read before the National Academy of Scientists, by Prof. Burt G. Wilder, of Cornell University.

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PASTEUR AND HIS VIENNA CRITICS.

Second Article.

Continuing his rejoinder to von Frisch's *brochure*, M. Pasteur remarks that, for the purpose of testing his (Pasteur's) experiments, von Frisch made an error in applying his tests for the most part to rabbits rather than dogs, but, above all, whether rabbits or dogs were concerned, in trying the prophylactic inoculations without any previous infection. Following up certain details connected with these points, Pasteur declares that they vitiate von Frisch's experiments and lead one to conclude either that he conducted his operations badly, or that he allowed the virus which he received from Pasteur to degenerate. This, he thinks, is shown not only by the frequent occurrence of unheard-of periods of incubation, but also by sundry deaths from septicæmia.

Reverting to von Frisch's conception of testing the prophylactic efficacy of the Pasteur system by inoculation by the method of trephining, to which he had objected that von Frisch's negative results could not outweigh his positive results, and having learned from the pamphlet that von Frisch regarded his own results as positive, M. Pasteur brings up these two propositions: 1. In dogs, inoculation on the surface of the brain always causes death by rabies—a point on which all the world is agreed. 2. The preventive inoculation is possible, even after inoculation on the cerebral surface. If, he adds, success is met with in the preventive inoculations under these circumstances, the result is certainly positive.

Passing over certain of von Frisch's statements, such as those relating to the statistics of rabies, to severe bites as compared with trifling ones, and the like, M. Pasteur reminds the Vienna society that the present contention over the subject of the preventive inoculations against rabies recalls what took place a few years ago in regard to the general question of the attenuation of viruses and the preventive inoculations against anthrax. The advance of time, he adds, has confirmed, scientifically and practically, the value of these latter inoculations, and, as concerns the present question, he looks confidently to time, which pleads neither for nor against, but is the infallible final arbiter. With pardonable pride, he closes with the statement that there are now fourteen anti-rabic institutes in operation in the world.

When the reading of the letter had been concluded, Dr. Ullmann stated that he had undertaken a series of experiments relating to the anti-rabic inoculations, which, although not yet concluded, warranted him, he thought, in stating: 1. That the preventive injections never cause death in animals. 2. That the preventive inoculations, managed according to M. Pasteur's method, are capable of rendering animals insusceptible to rabies. 3. That his own preventive inoculations of the human subject tend to confirm the efficiency of the treatment introduced by Pasteur.

In contravention of M. Pasteur's statements, Dr. von Frisch declared that, in regard to inoculations against anthrax, the Berlin school had not been converted; it had published nothing on the subject since the appearance of the memoir by Koch, Gaffky, and Loeffler, who had judged the practice to be devoid of real value. As to the question of priority in the matter of subdural inoculations, he said, M. Pasteur had said nothing about it to him during his stay in Paris. It was true that most of his experiments had been by the slow method, but that was the only one that had been broached at the time; as soon as he had heard of the intensive method, he had hastened to put it into practice, but with no change in the results. In all his experiments, he had made use of dogs as well as rabbits, and the effect had been the same on both. Finally, he could not admit that his criticisms had been refuted.

Our readers can draw their own inferences as to which of the parties to this particular phase of the controversy has the better of the other. We may be permitted to say, however, that we think there is something ungenerous in the persistency with which some of M. Pasteur's critics, especially in his own country, lay stress upon points that seem of secondary importance, in order to cry down the value of his system of preventing rabies. The strongest feature of M. Pasteur's position, it strikes us, is his reliance on the final verdict of experience.

THE BRITISH COMMITTEE'S REPORT ON THE PASTEUR SYSTEM.

The English are not given to being carried away with enthusiasm over novelties and wonders; on the contrary, their conservatism is proverbial. It has been reasonably certain from the first, therefore, that the conclusions finally arrived at by the committee appointed by the Local Government Board to inquire into Pasteur's system of preventing rabies would be of a character to constitute a most potent argument for or against the system. The names of the individual members of the committee—Sir James Paget (chairman), Dr. T. Lauder Brunton, Dr. George Fleming, the veterinarian, Sir Joseph Lister, Dr. Richard Quain, Sir Henry E. Roscoe, Dr. J. Burdon Sanderson, and Mr. Victor Horsley (secretary)—were an additional guarantee to the same effect.

The committee was appointed in April, 1886, and has worked with assiduity ever since, several of its members having visited Paris to obtain information from M. Pasteur himself, and its secretary having undertaken a thorough course of experiments. Its report was laid before Parliament on the 27th of June, and a copious abstract of the document appears in the "Lancet" for July 2d. For some weeks past it has been generally understood that the main drift of the report would be favorable to the system; it now appears that it is most decidedly in its favor. Every important proposition put forth by M. Pasteur is accepted, and it is shown by a careful analysis of recognized and undeniable statistical facts that the saving of life that has already resulted from M. Pasteur's preventive inoculations of human beings is very considerable. Indeed, the evidence adduced seems to us to wholly brush away the stock objections that have persistently been harped upon by the opponents of the system. The committee even doubts if any of the deaths that have followed the use of the intensive method can be attributed to the inoculations, and the report very properly treats this matter of detail as one still in the experimental stage, as M. Pasteur himself avows.

THE ÆTIOLOGY OF TETANUS.

In connection with the articles that have appeared in these columns from time to time concerning the doctrine of the equine origin and the infectiousness of tetanus, it is proper to notice an interesting *résumé* of certain investigations bearing on the part played by micro-organisms in the causation of the disease, as presented by Dr. Brieger at a recent meeting of the Berlin Medical Society. After several unsuccessful attempts to propagate tetanus by injecting pus and blood from animals affected with it, Carle and Rattone, he said, had succeeded in evoking an attack in a rabbit by injecting into the sheath of the sciatic nerve material obtained from a pustule on a rabbit that had succumbed to the disease. A similar transfer was also effected with an emulsion of a portion of the sciatic nerve. These experiments received support from Rosenbach's discovery, in the wound of a person who had died of tetanus, of a bacillus which he was able to cultivate. Guinea-pigs, mice, and rabbits proved readily susceptible to inoculation, although the stage of incubation might extend over many days. Flügge believed that by heating the bacillus for several minutes he had obtained a pure cultivation, which, however, was transmitted with difficulty to other cultivation media, while impure cultivations were easily transmitted.

From these bacilli Brieger has succeeded in extracting a ptomaine, or toxine, which has the property of producing tetanus, and to which he has given the name of tetanine. If a small portion of this substance is injected into an animal, two series of phenomena follow: one of paralysis, which often continues for hours, and one of alternate clonic and tonic contractions, rapidly leading to death. In addition to the tetanine, another substance is found—tetanine toxine—which has the power to call forth similar manifestations, although the clonic and tonic contractions are more prominent. The symptoms of poisoning with this substance also run in a certain cycle, but develop more slowly and hence stand out more clearly. At first there are fibrillary contractions, which constantly grow stronger and stronger until the animal falls into a tremor; then it passes into a state of paralysis, lowers its head, and presses its abdomen against the floor. Associated with the paralysis there are spasms, and their intensity is in direct proportion to the severity of the paralytic phenomena. Finally clonic and tonic contractions follow, which grow more and more intense until the animal dies in the acme of one of them. Brieger obtained a number of other toxines from the tetanus bacilli, but they have no special bearing on the subject under consideration.

MINOR PARAGRAPHS.

A REDUCTIO AD ABSURDUM.

Apropos of the stock objections to the Pasteur treatment of persons bitten by rabid animals—that, in regard to persons so treated, it is not positively proved that they would have had the disease if the treatment had not been adopted, etc.—a contributor to the "Gazette hebdomadaire de médecine et de chirurgie" suggests that a surgeon might with equal propriety say to a person who, having been bitten, came to him to have the wound cauterized: "My friend, cauterization is brutal, always painful, sometimes followed by grave accidents, uncertain in its results; it has not been proved to me that the dog that bit you was mad; it has not been proved to me that you are not insusceptible. When I am in doubt, I do not act."

PASTEUR INSTITUTES.

According to a recent statement by M. Pasteur, there are now fourteen of these institutions in operation. The "Lancet," commenting on the British committee's report on the Pasteur treatment, remarks that the verdict is so clear and strong that the Government must feel it its duty to take measures for the establishment of a Pasteur Institute in the United Kingdom. We think there can be no doubt of the soundness of this view, and it applies to all other countries as well. Whatever may be the final status of the system, the strong probability of its efficiency in preventing death in one of its most horrifying forms seems to us to make it the duty of every country to provide for its being carried out within its own territory.

THE QUESTION OF THE CONTAGIOUSNESS OF LEPROSY.

According to the "Lancet," the Royal College of Physicians is unable to determine whether leprosy is contagious or not. Although an inquiry conducted by it twenty years ago was supposed to have settled the question practically, to the effect that the disease was not contagious, it has been practically reopened by the discovery of the *Bacillus lepræ* and by expressions of opinion from many colonial practitioners, and further investigation is declared to be necessary.

A NOTEWORTHY CASE OF RETROVERSION OF THE UTERUS.

In a recent number of the "Lancet," Mr. W. J. Fraser gives a sketch of the case of an unmarried woman in whom retroversion of the uterus seems to have taken place suddenly, entailing consequences, in the shape of retention of urine and difficulty of replacement, commonly observed only when retroversion happens to the gravid organ. No mention is made of any uterine tumor or of the cause of the retroversion.

INGLUVIN.

A correspondent of the "Deutsche Medizinal-Zeitung" has learned that there is a preparation called ingluvin, furnished, as he says, by *one Warner & Co., of New York-Philadelphia* ("von einem Warner & Co. in New York-Philadelphia"); and he wishes to know whether there is anything useful in the article, or whether the medical world had better not be *warned against this Warner.* In reply, he is told what ingluvin is and that it is much recommended, and given the additional information that it would be well to be cautious in regard to it, one of the reasons given being that its maker's name is the same as that of the "Safe Cure." It strikes us that inglnvin must be making its way in Germany, or it would not be thought necessary to throw discredit on it by such a suggestion.

AMERICAN PRACTITIONERS IN CANADA AND GERMAN PRACTITIONERS IN ENGLAND.

The Chicago "Inter-Ocean" having complained, rather unnecessarily, we think, that the Canadians do not recognize American degrees as a title to practice in the Dominion, the "Canada Lancet" publishes a very judicious editorial article in which it sufficiently explains that in this fact there is no real occasion for ill feeling. It carries its frankness so far as to acknowledge that the better American schools are superior to those of its own country, but it adds, quite correctly, that there are other American schools which are so far below the Canadian standard that, without an invidious distinction being made, it is impossible for the Canadians to register American practitioners on the mere ground of the degree. On the other hand, the "Medical Press and Circular," of London, grumbles about the number of German doctors who make incursions into the United Kingdom for the purpose of drumming up remunerative practice. Whereupon the "Deutsche Medizinal-Zeitung" pointedly remarks: "Und Mackenzie?"

CHROME YELLOW AS AN ARTICLE OF DIET.

Judging by the reports of the coroner's inquisition in the cases of a number of Philadelphia children who are alleged to have lost their lives by poisoning with chrome yellow, that compound must be extensively consumed in Philadelphia, for a number of bakers testified that it was necessary to color their buns and cakes in order to sell them, and that nothing of an innocent nature would answer the purpose. Such being the case, it is a wonder that more cases of poisoning of the sort have not occurred. It is to be hoped, not only that the guilty persons will be adequately punished, but also that efficient measures will be taken to put a stop to the practice.

THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."

With the beginning of the current volume, the "Journal" was increased in size by the addition of four pages of reading matter, and the typography of the title-page was decidedly improved. We are pleased to see these evidences of its prosperity and of the continued carefulness with which its interests are looked after.

TROPHIC DISTURBANCES AFTER INJECTIONS OF ETHER.

At a recent meeting of the Paris *Société de biologie*, reported in the "Gazette hebdomadaire des sciences médicales," M. Vaillard mentioned an instance of œdematous swelling of the foot and thigh, followed by total destruction of three toes, after injections of ether in the neighborhood of the sciatic nerve in one of the lower animals. The condition was thought to be analogous to that of perforating ulcer of the foot.

THE CITY BOARD OF HEALTH.

It is to be mentioned to the board's credit that it seems to be taking unusual care in the choice of its summer corps of supernumerary inspectors and in training them to their duties. It is reported that it intends to carry out rigorous measures for isolating patients with the lesser infectious diseases—such, for example, as diphtheria. In the case of that disease, such action would be almost equivalent to a declaration of the board's belief in the communicability of the infection from person to person, and it would be well, perhaps, to go slowly. It is only by keeping well within the limits of what is really known on this point, and respecting the sanctity of the home—even if it is in a crowded tenement-house—as far as possible, that the board can retain that moral support by the medical profession which it acknowledges to be indispensable to its authority with the community.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 12, 1887:

DISEASES.	Week ending July 5.		Week ending July 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	6	4	12	3
Scarlet fever	27	9	39	3
Cerebro-spinal meningitis	1	1	5	4
Measles	19	3	24	7
Diphtheria	107	48	100	33
Small-pox	4	0	3	2

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 26, 1887, to July 9, 1887:*

McKee, J. C., Major and Surgeon. Granted three days' leave. S. O. 149, A. G. O., June 29, 1887.

Beall, George T., Captain and Medical Storekeeper. Granted four months' leave of absence. S. O. 150, A. G. O., June 30, 1887.

Cherbonnier, A. V., Captain and Medical Storekeeper. Directed to take charge of office, and perform duties of acting assistant medical purveyor in St. Louis, Mo., during absence on leave of Captain George T. Beall, medical storekeeper, now performing those duties. S. O. 150, A. G. O., June 30, 1887.

Tremaine, William S., Major and Surgeon. Ordered for examination by Army Retiring Board, at Governor's Island, New York Harbor. S. O. 151, A. G. O., July 1, 1887.

Skinner, J. O., Captain and Assistant Surgeon. Granted leave of absence for four months on surgeon's certificate of disability. S. O. 151, A. G. O., July 1, 1887.

Harris, H. S. T., First Lieutenant and Assistant Surgeon. Will be relieved from duty at Fort Ringgold, Texas, upon the return of Assistant Surgeon W. F. Carter, and will then report to commanding officer at Fort McIntosh, Texas, for duty. S. O. 73, Department of Texas, June 27, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending July 9, 1887:*

Deane, C. W., Passed Assistant Surgeon. Ordered to the Naval Rendezvous, San Francisco, Cal.

Harris, H. N. T., Assistant Surgeon. Ordered to the Naval Hospital, Mare Island, Cal.

Gorgas, A. C., Medical Director. To remain on present duty until December 31, 1887.

Cleborne, C. J., Medical Inspector. To remain on present duty until December 31, 1887.

Mackey, Benjamin F., Surgeon. To remain on present duty until December 31, 1887.

Browne, J. Mills, Medical Director. Will remain on present duty as member of Retiring Board until June 30, 1888.

Dean, Richard C., Medical Director. Will remain on present duty as member of Retiring Board until June 30, 1888.

Hudson, A., Medical Inspector. Detached from the Trenton, and to wait orders.

Schofield, W. K., Medical Inspector. Ordered to relieve Medical Inspector Hudson on the Trenton.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending July 2, 1887:*

Armstrong, S. T., Passed Assistant Surgeon. Relieved from duty at Marine Hospital, Memphis, Tenn.; ordered to Marine Hospital, New York. June 27, 1887.

Peckham, C. T., Passed Assistant Surgeon. Relieved from duty at Marine Hospital, Wilmington, N. C.; ordered to Marine Hospital, Memphis, Tenn. June 27, 1887.

Glennan, A. H., Passed Assistant Surgeon. Ordered to Revenue Cutter Crawford for temporary duty. June 30, 1887.

Brooks, S. D., Assistant Surgeon. Ordered to examination for promotion. June 27, 1887. Relieved from duty at Evansville, Ind.; ordered to Marine Hospital at Wilmington, N. C. June 27, 1887.

Society Meetings for the Coming Week:

Monday, *July 18th:* Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *July 19th:* Ogdensburg, N. Y., Medical Association; Medical Society of the County of Otsego, N. Y. (annual—Cooperstown).

Thursday, *July 21st:* New Bedford, Mass., Society for Medical Improvement (private).

OBITUARY NOTES.

Jared Linsly, M. D., a graduate of the College of Physicians and Surgeons, of New York, of the class of 1829, died on Tuesday, the 12th inst., at the home of his family, in Northford, Conn. The deceased was in his eighty-fourth year.

George Engs, M. D., of Newport, R. I., died on Thursday, the 7th inst., at the age of forty-five. The deceased was a graduate of the College of Physicians and Surgeons, of New York, and served on the house staff of Charity Hospital soon after obtaining his degree. For several years he had been one of the leading physicians of Newport, where he was highly esteemed.

John S. Bagg, M. D., of Springfield, Mass., died on Saturday, the 9th inst., at Nantucket, whither he had gone on account of ill-health. It is said that he was suffering from melancholia, and that he died by his own hand. Dr. Bagg was thirty-eight years old and a graduate of the Medical Department of the University of Pennsylvania, of the class of 1873. He served eight years in the medical corps of the navy, in which at the time of his resignation he was a passed assistant surgeon. On leaving the navy, he entered into practice in Springfield, where he worked faithfully up to the time of his attack. He was a member of the Massachusetts Medical Society and a man of great promise.

Samuel H. Henry, M. D., of Baltimore, died on Tuesday, July 12th, in the sixty-ninth year of his age. He was a native of Somerset County, Maryland, and was graduated from the University of Pennsylvania, Department of Medicine, in 1839. He practiced his profession at Elkridge Landing, Md., until 1876, when he settled in Baltimore. His death is said to have been due to paralysis.

Henry Carpenter, M. D., of Lancaster, Pa., died on Saturday, July 9th, in the sixty-eighth year of his age. The deceased was a native of Lancaster, received his early education in the Lancaster schools and the Lancaster County Academy, and was graduated from the Medical Department of the University of Pennsylvania in 1841. He was a member of the Lancaster County Medical Society, of which he was one of the founders and its president in 1855, and of the Pennsylvania State Medical Society, of which he has been secretary, vice-president, and a censor.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of May 27, 1887.

The President, Dr. Robert Abbe, in the Chair.

Thyreoidectomy.—Dr. Frank Hartley showed a woman, forty-seven years old, Irish, on whom he had performed this operation. She was admitted into Bellevue Hospital, December 8, 1886, with a small lump in the neck, on the left side, just midway between the chin and the breast bone. It had existed for three years, and had increased in size but slowly. It had given no trouble, except difficulty in breathing and swallowing during menstruation, until six weeks before her admission, when it became inflamed, and the difficulty in breathing and swallowing was constant. She could swallow liquids only. It had been treated first with poultices, and then with a wash. She had been in this country six years, and had always resided during this period in New York.

At the time of her admission she was well nourished, her heart and lungs were normal, her urine was free from albumin, and a microscopic examination was negative. There was a well-marked tumor upon the left side of the neck, occupying the left lobe of the thyreoid gland, and extending three quarters of an inch to the right of the median line. It was two inches and a half in the transverse and two inches in the vertical diameter. About its middle a sinus extended for a distance of two inches, from which escaped a small amount of pus. The thyreoid gland itself, of which this tumor formed the greater part, seemed normal to the touch, and could be felt covering the cavity on every side, except at its apex. The skin and subcutaneous tissue overlying the gland were very much thickened and adherent to the gland, especially at the opening of the sinus. There was no evidence of pressure upon the recurrent laryngeal, the sympathetic, or the pneumogastric nerve. The gland overlapped the carotid artery upon the left side. The patient had a fibroid tumor of the uterus.

On December 9th an incision three inches long was made over the prominent portion of the tumor, the gland was incised, and the cavity was opened. It was scraped out with a Volkmann's sharp spoon. There was only very slight hæmorrhage. The cavity was stuffed with iodoform gauze. On the 17th the patient was discharged, and was treated in the outdoor department from that date until March 21, 1887. During this time the sinus was treated with drainage, Peruvian balsam, naphthaline, and iodoform dressings, and twice it was scraped out with Volkmann's sharp spoon; but the sinus still persisted, and there were constant exacerbations of acute inflammation. At the latter date the gland was removed by Kocher's method.

The wound healed completely by the 20th of April. Microscopical examination showed the growth to be a colloid cyst, having thickened connective-tissue walls, and in a state of chronic inflammation. The reason for removing the gland was that it was the shortest and most certain method of cure, and was deemed justifiable after other methods of treatment had failed.

Dr. M. A. Starr asked in what percentage of such cases myxœdema developed.

Dr. Hartley did not know, but a certain operator had stated that thyreoidectomy performed on patients above twenty years of age was not followed by myxœdema.

The President remarked that attacks of cellulitis were common in such cases. He had seen a case of colloid cyst of the thyreoid which had suppurated and resulted in a sinus. The sinus was very obstinate in closing, and the patient had two or three attacks of cellulitis; but the sinus finally closed without his having to resort to excision.

Pasteur's Treatment of Rabies.—Dr. H. M. Biggs read a paper on this subject. [See page 57.]

Dr. B. F. Curtis had seen a case of tetanus resembling the paralytic form of rabies. A boy received a slight wound in the temple and was brought to the Chambers Street Hospital. In four or five days paralysis of the muscles of the same side of the face set in. A short time after spasm manifested itself in the paralyzed muscles. The speaker saw the patient a week after the receipt of the injury, when the paralysis of the side of the face was complete, but the eyelid was intact. The spasm affected both sides of the face, and extended to the muscles of the arms, body, and legs. Dressing of the wound had no influence on the spasms. A boggy swelling was found in the neighborhood of the wound. This was opened, with the result of giving vent to some pus, but the spasms remained unaffected. The patient died in the hospital about a fortnight later. Chloral and the bromides were of no benefit. Before death the tetanus became general. The mind remained clear, and the only pain complained of was that connected with the spasms, which were very severe.

Dr. Starr thought that the statistics of the paper were valuable and suggestive. Every one knew the hysterical character of the French people, and that hysteria might simulate hydrophobia. He was inclined to believe, in the light of the paper just read, that the majority of cases of alleged rabies recorded as occurring in France within the past year were nothing more than hysteria.

Dr. Biggs stated in reply that he believed there was something in the method, but it was as yet in the embryonic condition, and Pasteur was apparently working without any rational theory or systematic course of procedure. The speaker would not allow himself to be subjected to the treatment if he were to be bitten by a rabid dog. In reference to the notorious Newark case, in the light of subsequent events, he believed it not to have been a case of rabies. At the autopsy he had found nothing in the brain or spinal cord.

Dr. J. H. Emerson asked if there were any lesions characteristic of rabies.

Dr. Biggs replied that there were not. The lesions that had so far been found were congestion of the spinal cord and of the membranes of the brain and engorgement of the small vessels of the medulla oblongata and pons Varolii, with a slight degree of inflammation around them.

Dr. Starr stated that a Parisian observer had recently found a micrococcus in the lymph-spaces in the brains of animals that had died of rabies. This micro-organism took a deep-blue stain and was capable of cultivation. It was maintained that inoculations with it would produce rabies.

The Ultimate Result of an Operation for Empyema was shown in a patient exhibited by Dr. L. Emmett Holt. A girl, now nine years old, was seen in May, 1884, when she had empyema of the right side, the chest being about half full of pus. The beginning of the symptoms was referred to an attack of pneumonia in the previous December. The radical operation of incision being declined, the chest was aspirated three times at short intervals, never more than six ounces of pus being removed. Six months later, the patient returned with the following signs at the right apex: Great retraction, cracked-pot resonance, increased vocal fremitus, cavernous respiration and whisper, and moist râles. Below this there were bronchial voice and bronchial respiration. Over the lower half of the chest the signs of fluid were still marked. These signs, inasmuch as the child's father had died of phthisis, were interpreted to mean a cavity at the apex, and this diagnosis was confirmed by Dr. Cauldwell and Dr. Ripley. In February, 1885, a fluctuating tumor appeared at the sixth space, a little to the outer side of the right nipple-line. A free incision was made with antiseptic precautions, and four ounces of pus were withdrawn. Two drainage-tubes were inserted. The discharge lasted until August, by which time the sinus had completely and permanently closed. The right chest now measured nine inches and three quarters; the left eleven inches and a half. There was very marked retraction of the whole right side, with a considerable degree of lateral curvature of the spine. The patient's general condition was excellent, and had improved steadily since the establishment of free drainage. In January, 1886, the difference in the two sides of the chest was only one inch and a quarter. All the moist sounds at the right apex had disappeared, and the respiration was rude, broncho-vesicular, and diminished in intensity.

Her present condition was as follows: She was plump and well nourished, and had a good color; the heart's apex was not displaced; there was retraction over the whole right chest, most marked over the lower half of the lung and just below the clavicle. The latter changed but little on full inspiration. Measurements over the nipple showed only one inch difference in the two sides of the chest. The spine was almost straight, and close inspection was required to detect any deviation. There were increased vocal fremitus, dullness, and rude, high-pitched respiration over the right apex, but no râles; over the right base there was feeble respiration with marked dullness. There was a firm cicatrix, two inches long, below and to the outer side of the right nipple. The special points of interest about the case were: 1. Failure of cure by three aspirations. 2. The subsequent formation of a cavity at the right apex. 3. Arrest of the breaking-down process in the lung as soon as free drainage was established, in spite of a bad family history. 4. The complete cure of a chronic case without resection of a rib.

Dr. G. M. Tuttle and Dr. W. H. Katzenbach thought that the physical signs might be explained by purulent effusion compressing the lung instead of a cavity.

The President thought that the abscess might have been formed by a purulent effusion circumscribed by pleuritic adhesions. He doubted if the physical signs were due to a cavity in the lung substance.

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Third Meeting.

(*Continued from Vol. XLV, page 303.*)

Vaginal Hysterectomy in America, with Report of Two Cases.—Dr. A. Palmer Dudley, of New York, read a paper on this subject. [See page 35.]

The **President** (Dr. T. A. Emmet) thought that the necessity for this operation depended upon a variety of conditions. It was more likely to result in permanent success in sarcoma than in carcinoma. If only that portion of the uterus was to be removed which was below the Fallopian tubes, the operation could usually be done with a certain degree of facility. When removed entirely, the danger from shock and peritonitis was very great. The hæmorrhage might usually be controlled by traction upon the vessels. The lateral posture seemed to him the more advantageous for the operation, Sims's speculum being used. The speaker thought that in this position the uterus could be drawn down more readily than in any other. The matter of drainage in such cases was a very important one, and should always receive due consideration.

Dr. A. F. **Currier** said that the question of the removal of the uterus for cancer was constantly recurring, notwithstanding the lack of success which had thus far attended all attempts at radical cure. Experience had demonstrated that it was a rule which had few exceptions that radical removal was impossible after the proliferating epithelial cells had penetrated beyond the uterus. Notwithstanding this, the speaker believed that the severer operations were frequently justifiable for the sake of their palliative effect, even if the disease recurred within two years, as it usually did. The operation of vaginal hysterectomy was of earlier date than had been recognized by the reader of the paper, having been done in the first years of this century by Récamier, and, in fact, it was known in Europe by his name. It had been dropped from time to time, and had been eventually revived by Czerny in 1878, after Freund's operation had failed to accomplish what had been confidently expected from it. The best results from this operation had been obtained by the Germans, notably by Staude (with sixteen consecutive successful operations), Brennecke, Fritsch, Martin, Schröder, and Billroth. We could do no better, at present, than to imitate their methods, their technique being well-nigh perfect. The speaker did not believe, with Knowsley Thornton, that the operation would soon drop out of surgical practice. As had often been observed, he believed it was a good plan to publish unsuccessful cases on the ground that failures were often more instructive than successes.

The **President** believed that the operation would always have a field, and that the conclusions of Dr. Currier as to the fatality of the disease after operation were too sweeping. He thought the turning-point as to permanent success from an operation depended upon the age of the patient, and that the results were almost invariably better in operations which were performed after the menopause. He believed also that after such operations it was better to close the wound, and leave no surface to heal by granulation.

Dr. C. C. **Lee** (present by invitation) thought the operation could be performed as readily in the dorsal as in the lateral position, or even more readily. He had not found it difficult to control hæmorrhage during the operation if the uterine arteries were first ligated. He thought that vaginal hysterectomy was warranted only for sarcoma. If carcinoma was present, either Baker's or Schröder's supra-vaginal excision should be performed, and at as early a period as possible.

Dr. E. C. **Dudley** had operated in only one case, and then with a fatal termination. He believed that a most important preliminary step in the operation was to secure each broad ligament with a *serre-nœud*. He also thought that the peritonæum and the vaginal mucous membrane should be closed and closed separately.

Dr. A. P. **Dudley**, in conclusion, agreed to the statement that the disease was the more likely to recur if the operation had been done upon a young person. He thought that it usually recurred in the vaginal wound. His experience had led him to believe that death occurred, in many cases, from an acute parenchymatous nephritis rather than from the shock of the operation. This demonstrated the great importance of a preliminary careful examination of the kidneys.

Book Notices.

A Manual of Treatment by Massage and Methodical Muscular Exercise. By **Joseph Schreiber**, M. D., Member of k. k. Gesellschaft der Aerzte of Vienna, etc. Translated, with the author's permission, by **Walter Mendelson**, M. D., of New York. Philadelphia: Lea Brothers & Co., 1887. Pp. viii–17 to 285. [Price, $2.75.]

The term massage, as well as the practice itself, is at present in disfavor in France, because it has come to be associated in the public mind with a suspicion of quackery. The same is true, to a moderate degree, in our own country. Recently some noted New York physicians met together in private session to examine into the charges that massage was largely carried on for immoral purposes. This deplorable state of things is due to the fact that the regular physician will not condescend to himself employ a means so largely in vogue with female "rubbers." Mechano-therapy is, however, a science well worthy of his careful study, and such men as Billroth, Benedikt, Charcot, Eulenburg, Esmarch, and a host of others, have not only added valuable contributions to the literature of the subject, but to-day do not hesitate for a moment to personally treat disease by manipulations. The mechanical treatment of diseases requires much experience and hard study, and without such should not be intrusted to a layman. The different manipulations are in themselves not difficult to learn, if only the necessary regard is paid to the relations existing between bone and soft parts; but the active and passive movements so indispensable for the cure of certain forms of disease require an exact knowledge of anatomy and physiology for their proper performance. These, therefore, should always be undertaken by the physician himself, or, at least, under his direction and oversight. The present volume will do much to establish mechanical therapeutics upon a scientific basis. While it advocates its employment in a wider field than has heretofore been accorded to it, the language used is very temperate, and the part chance plays in the cure of chronic illness, together with the natural tendency to recovery inherent in certain diseases, is well borne in mind. The mechanical measures advocated are divided into stabile and labile. Among the former are included pressing, tapping, hacking, pinching, and concussing. Among the latter, stroking, rubbing, and kneading. In addition to these, certain passive and active movements are also employed. Mechanical therapeutics will, in accordance with its physiological effects, be successful where it is desired to produce the following results: To cause an increased circulation in the muscles and soft parts; to strengthen muscular fibers; to cause the resorption of exudations, transudations, and infiltrations; to increase, by passive and active exercise of all the muscles, the oxidizing powers of the blood; to relieve the congestion of internal organs; to stimulate directly the sympathetic nervous system; and, finally, by systematic exercise (health gymnastics) to educate morbidly affected muscles, to convert abnormal into normal actions, and to suppress useless movements. In neuralgias resulting from anæmia, hysteria, and malaria, as well as in the neuralgic affections of muscles and tendons, gymnastics exerts a very favorable influence, and to Benedikt belongs the credit of giving a fresh impetus to its therapeutic employment in this direction. "The routine treatment by antiphlogistics and absolute rest only too often fails. Household practice has in these cases stolen many a march on science, and, by first applying stimulating poultices, and then employing motion, especially in the chronic stage, has achieved wonderful success. The labors of those who have sought to introduce health gymnastics are soon forgotten, and it is only through the works of Stromeyer and Volkmann that this form of treatment has been again systematized. The chief thing in these cases is to test carefully both methods of cure at the proper time, and then consistently to employ the best. . . . Mechano-therapy nowhere meets with more success than in the treatment of muscular rheumatism. Busch says: 'I have lately had my attention called particularly to the fact that the pain of rheumatic myalgia is often cured sooner by massage and movement than by rest and local applications.' My own experience would lead me to expunge the word 'often' and substitute for it 'always,' for I feel free to maintain that rest actually prolongs the duration of the trouble." We find in this a ready explanation of the "Arise and walk!" of the faith-cures. Among the other morbid conditions in which this form of treatment is specially recommended we find chlorosis, neurasthenia, hysteria, hypochondriasis, cerebral congestion, chorea, writer's cramp, etc.

The work is a very welcome addition to the library, and we heartily commend it to our readers as a step in the right direction—that of the relief and cure of ailments by an improved hygiene of the affected part, and, wherever possible, without the use of drugs.

Controlling Sex in Generation. The Physical Law influencing Sex in the Embryo of Man and Brute, and its Direction to produce Male or Female Offspring at Will. By Samuel Hough Terry. Second Edition, with an Appendix of Corroborative Proofs. New York: Fowler & Wells Co., 1887. Pp. 5 to 209.

Howsoever plausible a theory based upon hypothesis and supported by probabilities may be, its presentation to the uninformed and unthinking public before it has reached a more finished stage is always to be deprecated; and especially is this the case when, as in the book under consideration, an advocate whose strength has not been tried in combat with his peers undertakes to grapple with a problem which has baffled the keenest investigations of physiology, and lays before an uncritical audience hasty generalizations drawn from insufficient data. Furthermore, while we may hope for the millennium when naught connected with biology shall be deemed impure, it must be admitted that in the artificial civilization of to-day popular disquisitions on the details of sexual intercourse are apt to be associated with unsavory ideas in the casual unprofessional mind; and, although we willingly acquit the author of any save the most laudable intentions, we doubt if his work is the most desirable sort of advice to persons of a marriageable age.

Mr. Terry is much disquieted by the statistical evidence that, although the births of males exceed those of the other sex, the census shows in numerous localities a preponderance of adult females doomed to compulsory spinsterhood unless they accept the Mormon dispensation; and, instead of attempting to devise means for the prevention of the greater mortality of male children under one year of age, he takes the rather less logical course of endeavoring to still further increase the relative number of male births, thus providing more material for the mortality of boyhood and the emigration of adolescence. According to the author's positively formulated law, the sex of the offspring is in inverse ratio to the degree of sexual excitement in the parents respectively at the time of impregnation, a male birth being insured if the animal passions of the wife are more intensely roused than those of the husband, and *vice versa*; so that all that is necessary is to entirely supplant reflex instinct by philosophical deliberation in the affairs of intimate domesticity which have hitherto escaped the domain of calculating forethought, except in the connubiality of Mr. Shandy, Senior, whose experience, by the way, as exemplified in the subsequent production of Master Tristram, is in striking contrast with Dr. Terry's rule. The "scientific theory" advanced in explanation of this "physical law" is, to say the least of it, original, and will probably be as satisfactory as any other to the class of minds to which it is addressed. The author finds "good reason for concluding" that sexual attraction is "one of the phenomena of electricity," affirming that "the male organs secrete or eliminate positive and the female negative electricity"; a substantiating argument being adduced in the fact that physiological chemistry has "found the menstrual discharge of woman to be quite acid in character, while the semen of man was as decidedly alkaline—being the two chemical conditions which, according to the list mentioned above, would naturally generate in the woman's sexual organs a negative electric condition, and in the man's a positive electric condition." Hence, "there must be always in the male parent an influence tending to induce the negative or female form in the germ he produces, . . . while on the other side the opposite condition of the female parent would similarly induce a positive or masculine form in that part or portion she furnishes toward the making up of the embryo." When it is added that the author postulates the existence of increased sexual desire in our American latitude, and explains the supposed phenomenon by the allegation that "there is a larger share of oxygen in our atmosphere than in the older and more populous countries of Europe," no comments of ours are needed to display the scientific weight of his "theory." As regards the "law" therefrom evolved, the experience of most observant physicians will furnish contradictory recollections of frigid mothers bearing sons to passionate husbands, and feeble fathers begetting naught but daughters from vivacious spouses. The preponderance of males is greatest in first-born children, where the passion of the male parent has presumably been most uncontrolled, and it is forensically alleged that boys have been conceived by women in a state of unconsciousness. Even if a complete analogy be granted between the generative processes in man and in the lower animals, the experimental observations of cattle-breeders have thus far failed to lead them to uniformity of conclusions, various "theories" being sustained by the collation of coincidences which are distorted into the relation of causes and effects. In fine, the perusal of the book fully substantiates the writer's candid avowal that he is "not a scientist," and, such being the case, arouses regret that he should have prematurely plunged into a subject the elucidation of which is beyond the present grasp of the science that alone can ultimately deal with it.

L'enseignement actuel de l'hygiène dans les facultés de médecine en Europe. Par le Dr. W. Loewenthal, Professeur agrégé à l'Académie de Lausanne. Paris: H. La Soudier, 1887. Pp. 126.

The author has procured information from almost all the teachers of hygiene in Europe about the amount and kind of such instruction, the facilities afforded for special investigations, and the proportion of students attending the courses. These details are then summarized in tabular form for the purpose of ready comparison.

It is not encouraging to find that so few chairs of hygiene have been established in places where the highest medical education is supposed to be given, and so many in the so-called backward countries—*e. g.*, in Germany, out of twenty faculties, only three (those of Berlin, Leipsic, and Munich) have a special chair of hygiene, while in Hungary, Russia, and Spain every faculty has its chair, and the study is obligatory upon all students of medicine. In England, which we like to look upon as the leader in sanitary science, lectures on the subject are few, and evidently lack interest for the majority of the students. In Prussia, Koch's investigations have excited some interest, and the Minister of Public Instruction has signified his intention of endowing chairs of hygiene in all the faculties, with special laboratories, etc.

Dr. Loewenthal has done good service in calling attention to the infrequency and imperfection of instruction in hygiene at the present time, and he adds some excellent suggestions relating to the proper classification of such instruction and its adaptation to different ages, capacities, and professions, urging that it be made obligatory, not only upon all medical students, but upon all whose work in life will influence, more or less, the sanitary environment of large numbers of persons—*e. g.*, civil engineers, architects, manufacturers, teachers, and others.

Athothis. A Satire on Modern Medicine. By Thomas C. Minor. Cincinnati: Robert Clarke & Co., 1887. Pp. viii-5 to 194.

In a cleverly imagined Egyptological fable, the author conveys some not unmerited flings at the trade-marked customs of fashionable medical practice. Self-seeking specialism, with its one sided view; charlatanism disguised under the cloak of orthodoxy; clinical teaching conducted for the collateral profit of the teacher, with small benefit to the student and positive detriment to the patient; the lethal triumphs of venturesome modern surgery; the overweening reliance on instruments of precision and observation of effects rather than of causes; the fine-spun vagaries of the germ-theory—these and other shortcomings or backslidings of the nineteenth century are treated with rebuke or ridicule from the point of view of the revivified medical philosopher of the first Egyptian dynasty. The types of different classes of successful practitioners are well caricatured—so well that readers in almost every large city will fancy that they recognize but slightly overcharged portraits from real life. If the writer seems somewhat too skeptical of any true advance in medicine, and even here and there assumes the semblance of a *laudator temporis acti* faintly tinctured with modern "isms," his book sets forth some wholesome truths in pleasant phrase, and will amuse a leisure hour of the medical reader's vacation.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

J. B. Baillière & fils, Paris.—L. Lichtwitz, "Les anesthésies hystériques des muqueuses," etc. (3*fr.*)

O. Doin, Paris.—J. R. Le Clerc, "L'angine de poitrine hystérique." (3*fr.*)

G. Steinheil, Paris.—S. G. Clado, "Étude sur bactérie septique de la vessie." (2*fr.* 50.)

E. Besold, Erlangen.—G. Bizzozero, "Handbuch d. klinischen Mikroskopie." 2d ed. (8*M.*)

Heuser, Neuwied.—F. Dahlmann, "Zur Behandlung d. Fehlgeburten." (0*M.* 75.) —— D. Eichholz, "Zur Diagnose u. Therapie d. atypischen Uterusblutungen." (1*M.*) —— C. Schmidt, "Heilung d. durch Morphiumgenuss verursachten Nervenzerrüttung u. Willenschwäche." (1*M.* 20.) —— H. Wehberg, "Wider den Missbrauch des Alcohols, zumal am Krankenbette." (0*M.* 50.)

P. Noordhoff, Groningen.—A. P. Fokker, "Untersuchungen über Heterogenese. I. Protoplasmawirkungen."

H. Steinitz, Berlin.—L. Löwe, "Das Ohr." (1*M.* 50.)

F. C. W. Vogel, Leipsic.—F. von Birch-Hirschfield, "Lehrbuch d. pathologischen Anatomie," 3d ed., vol. ii, part 1. (10*M.*) —— A. Lauderer, "Behandlung von Rückgratsverkrümmungen mit Massage." —— C. Liebermeister, "Vorlesungen über specielle Pathologie u. Therapie." Vol. iii.

Fratelli Rechiedei, Milan.—F. Orsi, "Lezioni di patologia e terapia." 2d ed. (12*l.*) —— J. Chauvel, "Manuale di medicina operatoria." Transl. by G. Fabiani and G. Gallozzi. 3d ed. (12*l.*)

F. Vallardi, Milan.—G. Cesari, "Il ferro e suoi preparati," 2d ed. (4*l.*) —— D. Miliotti, "Della tabe dorsale." (5*l.*)

U. Montegrifo, Madrid.—B. G. Alvarez, "Sobre la Caries y Necrosís del Peñasco en los Niños y su Tratamiento."

BOOKS AND PAMPHLETS RECEIVED.

Practical Urine Testing: A Guide to Office and Bedside Urine Analysis, for Physicians and Students. By Charles Godwin Jennings, M. D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. Detroit: D. O. Haynes and Company, 1887. Pp. vi-9 to 124.

Medicine and Medicine-Men. Anniversary Address delivered at the Banquet of the Louisville Medical Society, May 26, 1887. By John Godfrey, Surgeon M.-H. S. Louisville: John P. Morton & Co., 1887. Pp. 34.

A Case of Incomplete Abortion in Twin Pregnancy. One Fœtus Lost at Third Month, but its Placenta retained to Delivery at Term of the Other Twin. By Stanley P. Warren, M. D., Portland, Me. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Photographing the Retinal Image Impressed on the Living Fundus Oculi. By A. M. Rosebrugh, M. D., Toronto, Ontario. [Reprinted from the "Canadian Practitioner."]

Ricerche sperimentali sulla rabbia (seconda comunicazione). Pel Prof. Enrico de Renzi, Direttore della Prima Clinica Medica della R. Università, e pel Prof. Gaetano Amoroso, Coadiutore della Prima Clinica, etc. [Estratto della "Rivista clinica e terapeutica."]

Du développement du fœtus chez les femmes à bassin vicié. Recherches cliniques au point de vue de l'accouchement prématuré artificiel. Par le Dr. Felice La Torre, membre correspondant de la Société obstétricale et gynécologique de Paris, etc. Paris: O. Doin, 1887. Pp. 342.

Miscellany.

A Patient's Account of the Pasteur Treatment.—"The following letter," says the "Indian Medical Gazette," "was written by an Indian medical officer who was unfortunately compelled by the bite of a rabid dog to proceed to Paris and place himself under Pasteur's treatment":

"I am sending you a letter, as I think some account of M. Pasteur may interest you. I had a pleasant voyage home and got here on the 31st of January—good thing as I left M—— on the 12th of January. I was just in time, as Pasteur says his system is of no use after thirty days from the bite. I heard all about the dog that bit me. He had been queer, and refused all food from Saturday. On Sunday he bit me. On Monday he went raving mad, bit at every one and everything; bit his master, G—— of the ———— Regiment at D——; a mehter and a Khit; then got paraplegia and was killed.

"They say here it was a typical and unmistakable case of rabies. I am sending you a paper with a very good account of the scene at Pasteur's laboratory. It really is a wonderful sight. Every age, sex, nationality, and rank there, from Lord Doneraile down to ragged Spanish peasants. There were over eighty being treated while I was there, and there were some new cases every day. They treat different cases differently; bites on the face are more dangerous, and get a more prolonged course. I had to go and be inoculated morning and evening for six days; then every morning for five days. I was finished last Friday, but they asked me, if not inconvenient, to stay in Paris for five or six days more, and then report myself, when a few more inoculations *might* be necessary. After that they said: 'You can go with the most perfect confidence.' They begin with virus fourteen days old, and go on up to that only five days old; they don't use any stronger than that; but virus under seven days will infallibly give a dog rabies. It always burns a good deal, and the last few days gave me a pretty big subcutaneous lump and ecchymosed spot in the skin. Now, as to results. How any sane man can doubt but that Pasteur has made another great discovery is more than I can understand. But there is a great deal of jealousy—so French—among the doctors here, as he is only a chemist. But their line of argument is *so* weak. They can't prove that the treatment has ever proved injurious; but they say it is useless, and that there is no proof all his cases may not yet get hydrophobia, or they say they wouldn't have got it in any case. Now, look at facts on the other hand. He has now done just 3,000 cases, and only ten have got hydrophobia. Of these, eight were the famous Russians, but they came too late, and, besides, Pasteur said at the time his system was not worked out for wolf rabies, which is specially virulent, and has a very short period of incubation. These men came very late, and I think that only eight died out of the twenty-five speaks well for the treatment. They came very late, and their wounds were horrible. One man had his jaw nearly torn away, another his abdomen torn open, and one had a wolf's tooth so impacted in his skull that they could not get it out. Of the other two cases, one patient came 35 days after being bitten. Pasteur said it was too late, but he would try. The patient got hydrophobia, and died before the treatment was completed. The tenth was a man who came only two days, and then came no more—went on the spree about Paris. He got it, and died 50 days after the bite. Not one of all the others of the 3,000 have got it, and remember from 40 to 60 days after the bite is what they call the 'dangerous period.' Cases before 40 days are awfully rare, and very rare after 60 days, though up to 19 months are authentic. The vast majority are between 40 and 60. He only treats cases, too, where there is at least *strong* suspicion that the dog was mad. There are many cases such as the following: A young civilian named F. was sent to him six months ago. He is alive and well, but two cows bitten by same dog both died mad. A Spaniard came here who had been awfully torn by a huge Pyrennean dog. Among other injuries the whole of one calf had almost been torn away. The same dog bit another dog, a pig, and two cows; they all died mad, but the man is alive and well after seven months. Two children were bitten some time ago in England. One was sent here, the other not. The one who was treated is all right, the other has died mad. Besides, he has in his laboratory a lot of dogs who have been inoculated, and you *can't* by any means give them rabies, even by means which infallibly give it to an unprotected dog, and the inoculations must in some way make you insusceptible, because the *last* inoculations are such as, if you hadn't been prepared, would be fatal: at least they are to *unprotected* dogs. I think there is but one conclusion to be drawn from these *facts*."

Hæmorrhage at the Menopause.—At a recent meeting of the Philadelphia County Medical Society, Dr. B. F. Baer showed a uterine fibroid, and said:

"This tumor was removed yesterday from a lady aged forty two years. About a year ago she began to lose more than the normal amount at her periods. Soon after, she suffered from attacks of metrorrhagia twice a month, sometimes almost to syncope. At times she would flow continuously for two weeks. Finally, in the intervals, she began to have a fœtid, watery discharge. She was pale, emaciated, and cachectic. Now, such a history often indicates the presence of cancer, but not always. It *never* means that the lady is simply near the menopause. A great deal of harm has been caused by that idea. In this case the physician thought that the hæmorrhage was due to the menopause, and did not consider it necessary to make an examination. But finally the patient insisted upon it, in order to find out if there were not a local cause. He then made the examination, and diagnosticated the case correctly. I saw the case in consultation, and removed this fibroid tumor, which is ulcerated at the base, and hence its fœtid discharge. I have known many instances where patients have been put off by the statement that the hæmorrhage was due to the change of life, and almost bled to death from a pathological cause. Several years ago I reported a marked case of this kind, which was easily cured by the removal of a small polypus from the neck of the womb. At first the hæmorrhage was said to be menopausal. After a time the patient became cachectic, and the case was pronounced to be one of cancer. As cancer is properly regarded as incurable, it was considered unnecessary to submit the patient to an examination. This patient was cured by the removal of a fibroid polypus! I have actually known a patient to die from repeated hæmorrhages caused by a benign disease, where the bleeding was at first attributed to the menopause and finally to cancer. I believe that great harm is often done by physicians' putting patients off with the statement that the hæmorrhage at this period of life is the result of the change of life, instead of seeking for the real cause."

The Mississippi Valley Medical Association held its thirteenth annual meeting at Crab Orchard Springs, Kentucky, on Wednesday, Thursday, and Friday of this week.

The Summer Courses in Vienna are arranged as follows:

SUBJECTS.	Teachers.	Courses begin.	Classes limited to.	Fees.
Pathological anatomy.......	Dr. A. Zemann.	Aug. 1, Sept. 1.	15	15 fl. (for. 20 fl.).
Pathological histology......	Dr. A. Kolisko.	Aug. 1.	12	20 fl.
Bacteriology................	Prof. A. Weichselbaum.	Sept. 1.	10	
"	Dr. A. v. Frisch.	Early in Aug'st.	......	10 fl.
Forensic medicine..........	Dr. A. Paltauf.	Aug. 1 or 15.	......	15 fl.
Chemistry of the urine......	Dr. C. Schilder.	Aug. 1.	15	15 fl.
" " "	Prof. J. Mauthner.	Sept. 1.	15	15 fl.
Microscopy of foods........	Dr. J. Nevinny.	Aug. 1, Sept. 1.	15	25 fl.
Advances in pharmacology..	Dr. H. Paschkis.	Sept. 1.	15	15 fl.
Diagnosis of internal diseases	Dr. H. v. Frisch.	Aug. 1.	12	25 fl.
" " "	Dr. E. Neusser.	Sept. 1.	12	25 fl.
" " "	Dr. E. Bamberger.	Aug. 1.	12	25 fl.
" " "	Dr. Lorenz.	Sept. 1.	12	25 fl.
" " "	Dr. L. v. Langer.	Sept. 1.	8	15 fl. (for. 25 fl.).
Diagnosis and treatment of internal diseases..........	Dr. M. Heitler.	Aug. 1, Sept. 1.	10	20 fl.
Physical diagnosis....	Dr. J. Drozda.	Sept. 1.	8	15 fl.
Diseases of the circulatory organs..................	Dr. K. Bettelheim.	Aug. 20.	......	10 fl.
Differential diagnosis of diseases of the brain and spinal cord.................	Prof. M. Benedikt.	Aug. 1.	25	20 fl.
Pathology and treatment of nervous diseases..........	Prof. M. Rosenthal.	Aug. 1, Sept. 1.	......	15 fl.
Electro-therapeutics........	Dr. J. Wagner v. Jauregg.	Aug. 1, Sept. 1.	10	20 fl.
Diseases of the brain and spinal cord...............	Dr. A. Holländer.	....	......	....
Neuro-pathology...........	Dr. R. Steiner v. Pfungen.	Sept. 1.	......	....
Psychiatry and forensic psycho-pathology.........	Dr. J. Fritsch.	Sept. 1.	6	10 fl.
Surgery before and since the introduction of antisepsis.	Prof. E. Albert.	Sept. 1.	10	5 fl.
Operations on the cadaver..	Dr. V. v. Hacker.	Aug. 1.	20	15 fl. (for. 25 fl.).
" " " ..	Dr. F. Salzer.	Sept. 1.	20	15 fl. (for. 25 fl.).
" " " ..	Dr. J. Hochenegg.	Sept. 1.	20	15 fl. (for. 25 fl.).
" " " ..	Dr. E. Ullmann.	Aug. 1.	20	15 fl. (for. 25 fl.).
Practical surgery...........	Dr. V. v. Hacker.	Aug. 1.	25	20 fl. (for. 30 fl.).
" "	Dr. F. Salzer.	Sept. 1.	25	20 fl. (for. 30 fl.).
" "	Dr. J. Hochenegg.	Sept. 1.	25	20 fl. (for. 30 fl.).
" "	Dr. E. Ullmann.	Aug. 1.	25	20 fl. (for. 30 fl.).
Surgery of children.........	Dr. R. Wittelshöfer.	Aug. 1, Sept. 1.	8	15 fl.
Bandaging.................	Dr. R. Wittelshöfer.	Aug. 1, Sept. 1.	10	15 fl.
Anomalies of refraction and accommodation.........	Dr. L. Herz.	Aug. 1.	10	20 fl.
External diseases of the eye.	Dr. F. Dimmer.	Sept. 1.	10	20 fl.
Ophthalmic operations......	Dr. E. Bochuer.	Aug. 1.	6	20 fl.
Clinical ophthalmology.....	Prof. A. R. v. Reuss.	Sept. 1.	......	10 fl.
Ophthalmic operations.....	Dr. O. Bergmeister.	Sept. 1.	6	20 fl.
Modern treatment of eye-diseases.....................	Dr. S. Klein.	Aug. 1.	6	15 fl.
Ophthalmoscopy and anomalies of refraction and accommodation.............	Dr. L. Königstein.	Aug. 1, Sept. 5.	10 7	20 fl. 20 fl.

SUBJECTS.	Teachers.	Courses begin.	Classes limited to.	Fees.
Gynæcological operations...	Dr. E. Ehrendorfer.	Sept. 1.	10	10 fl.
Clinical gynæcology	Dr. L. Lumpe.	Aug. 1, Sept. 1.	6	20 fl.
Operative gynæcology	Dr. L. Lumpe.	Aug. 1, Sept. 1.	4	50 fl.
Obstetric operations	Dr. L. Piskacek.	Sept. 1.	10	20 fl.
Laryngosc'py and rhin'scopy	Prof. K. Störk.	Aug. 1, Sept. 1.	......	20 fl.
" " "	Prof. J. Schnitzler.	Sept. 1.	......	10 fl.
" " "	Dr. O. Chiari.	Sept. 1.	8	20 fl.
" " "	Dr. W. Roth.	Sept. 1.	10	20 fl.
Otology	Dr. B. Gomperz.	Sept. 1.	12	15 fl.
"	Dr. A. Bing.	Aug. 1, Sept. 1.	......	15 fl.
Clinical lectures on childr'n's diseases	Prof. A. Monti.	Sept. 1.	10	10 fl.
Certain interesting topics in pædiatrics	Dr. M. Herz.	Sept. 1.	10	10 fl.
Hydro-therapeutics	Prof. W. Winternitz.	Sept. 1.	10	15 fl.
Diseases of the skin	Prof. M. Kaposi.	Aug. 1.		
" " "	Dr. S. Lustgarten.	Sept. 1.		
" " "	Dr. G. Riehl.	Aug. 1.	10	20 fl.
Venereal diseases...........	Dr. S. Ehrmann.	Aug. 1, Sept. 1.	10	15 fl.
Exercises with instruments in the diagnosis and treatment of venereal diseases.	Dr. S. Ehrmann.	Aug. 1, Sept. 1.	5	20 fl.
Syphilis and local venereal diseases	Dr. M. v. Zeissl.	Aug. 1. Sept. 1.	10	
Skin diseases and syphilis ..	Dr. C. Schiff.	Aug. 1.	10	20 fl.
Gonorrhœa	Dr. E. Finger.	....	6	
Treatment of venereal diseases	Dr. E. Kohn.			
Urethral and vesical endoscopy	Dr. S. Grünfeld.			

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 7th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 18th corresponded to an annual rate of 18·4 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 12·2, and the highest in Manchester, viz., 28·5 in a thousand.

London.—One thousand three hundred and ninety deaths were registered during the week ending June 18th, including 113 from measles, 8 from scarlet fever, 16 from diphtheria, 66 from whooping-cough, 1 from typhus fever, 7 from enteric fever, and 20 from diarrhœa and dysentery. There were 213 deaths from diseases of the respiratory organs. Different forms of violence caused 51 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 17·2 in a thousand. In greater London, 1,764 deaths were registered, corresponding to an annual rate of 17 in a thousand of the population. In the "outer ring" 17 deaths from measles and 11 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 18th, in the sixteen principal town districts of Ireland, was 23·8 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 5·1, and the highest in Kilkenny, viz., 33·3 in a thousand.

Dublin.—One hundred and eighty-one deaths were registered during the week ending June 18th, including 18 from measles, 3 from whooping-cough, 5 from enteric fever, and 6 from scarlet fever. Diseases of the respiratory organs caused 28 deaths. Two accidental deaths were registered, and in twenty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 26·7 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 18th corresponded to an annual rate of 19·3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 9·7, and the highest in Dundee, viz., 23 in a thousand. The aggregate number of deaths registered from all causes was 483, including 13 from measles, 10 from scarlet fever, 4 from diphtheria, 48 from whooping-cough, and 10 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending June 11th, corresponded to an annual rate of 23·2. The lowest rate was recorded in Wiesbaden, viz., 10, and the highest in Chemnitz, viz., 44·9.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Mayence.........	June 11.	65,701	29	..	....	....	....	....	....	1
Bremen..........	June 11.	118,000	41	..	....	...	....	....	1	....
Toronto..........	June 25.	120,000	25	..	....	....	....	....	....	2
Stuttgart.........	June 18.	125,510	37	..	....	....	....	....	1	....
Leipsic...........	June 18.	170,000	68	..	....	....	....	....	....	3
Munich..........	June 4.	269,000	200	..	....	....	....	....	2	8

UNITED STATES.

Philadelphia, Pa.—The health officer has issued the following proclamation under date of June 22, 1887:

"By resolution of the Board of Health of the city of Philadelphia, and by authority of law, masters and pilots will take notice: That all incoming vessels bound for the port of Philadelphia from ports infected, or which may hereafter become infected, including at present Key West, and also all vessels which have or have had sickness on board since leaving the port of departure, shall be required to report at the United States Quarantine Station at the Delaware Breakwater; and that all pilots in charge of such vessels be and are hereby required to obey this order, under penalty of law, before bringing such vessels into the Philadelphia Quarantine Station on the Delaware River. Vessels from non-infected ports, and having no sickness on board, will hoist their private signal under the national flag before passing the United States Quarantine Station."

A similar proclamation has been issued by the health officer at Camden, N. J.

Key West.—Yellow fever is slowly increasing. A temporary refuge station is being established by the Marine-Hospital Service at Egmont Key, where ten days' detention will be required; also disinfection of baggage.

The International Medical Congress.—The "Gazzetta degli ospitali" states that the Italian Minister of Public Instruction has nominated Professor Durante, and the Minister of the Interior Professor Semmola, of Naples, delegates to the congress.

The Health of Michigan.—According to a summary prepared by Dr. Henry B. Baker, the secretary of the State Board of Health, for the five weeks ending July 2d, diphtheria was reported from thirty-nine places, scarlet fever from forty-two, typhoid fever from twelve, measles from thirty-six, small-pox from one, and typhus from one.

Alleged Periodical Attacks of Rabies.—The "Philadelphia Record" credits the "Pittsburg Dispatch" with the story of a man who was bitten seven years ago by a small terrier dog, and who since that time "has remained in constant terror of anything approaching the semblance of a dog. As often as the month of July, the month in which he was bitten, occurs, he has given exhibitions of the most peculiar character. These, for the most part, consist of his showing a disposition to bark and bite at whatever he sees or imagines in his strange state." From the fact, as stated, that the man was warned at the time of his first attack, "should it occur the seventh time he would die from the effects," and "that either instant death or strangulation must ensue to save his friends from the contagion of the disease," it would seem as if he was suffering from periodical hypochondriasis, the tendency of the recurrence of which is increased by the attentions of his friends, well meant possibly, but ill advised.

The Health of Boston.—During the week ending Saturday, July 9th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 17 cases and 3 deaths; scarlet fever, 1 case; typhoid fever, 9 cases and 4 deaths; measles, 87 cases and 9 deaths. There were also 31 deaths from consumption, 8 from pneumonia, 4 from whooping-cough, 12 from heart disease, 8 from bronchitis, and 7 from marasmus. The total number of deaths was 263, against 188 in the corresponding week last year. During the month of June the number of deaths was 654, which was an increase of 17 over the corresponding month of last year.

THERAPEUTICAL NOTES.

Gymnema Silvestre.—According to Dr. Thiselton Dyer ("Nature"; "Practitioner"), leaves of this plant, when chewed, absolutely abolish for the time the power of tasting sugar. The *Gymnema silvestre* is an asclepiadaceous plant growing in the Deccan peninsula, and is also met with in Assam, along the Coromandel coast, and in some parts of Africa. It is a stout, woody climber, with long, slender branches. Its leaves are obovate or elliptic, acute or cuspidate, rarely cordate at the base. The powdered root has for a long time been known among the natives as a remedy for snake-bites, both as a local application and when taken internally in the form of a decoction. Mr. Hooper says that the leaves have a bitterish astringent and slightly acid taste. After chewing one or two leaves it was proved undoubtedly that sugar had no taste immediately afterward; the saltish taste experienced by others was due to an insufficiency of the leaf being used. Sugar in combination with other compounds in dietetic articles is plainly destroyed as to its taste after using these leaves. In gingerbread, for instance, the pungency of the ginger is alone detected, the rest is tasteless meal; in a sweet orange the taste of the sugar is so suppressed, and that of the citric acid consequently developed, that in eating it resembles a lime in sourness. Among the several kinds of foods, drugs, and beverages which affect the palate, gymnema does not render them all tasteless; it does not affect pungent and saline things, astringents, and acids. Its action is limited apparently to two diverse substances, sweets and bitters. It has been noted that sugar taken after the leaf tastes like sand; so he has found that sulphate of quinine taken after a good dose of the leaf tastes like so much chalk. He does not propose its use in the administration of nauseous drugs until its medical properties have been more studied, otherwise the quantity of the vehicle taken might prove to counteract the effect of the medicines. The experience of several friends as well as his own is that the effect does not last for twenty-four hours, as stated, but for only one or two hours; after that time the tongue resumes its appreciation of all that is sweet or bitter. The powdered leaves were submitted to the action of various solvents, and it was ascertained that the peculiar principle was capable of being dissolved out by alcohol. The alcoholic solution of the leaves was almost entirely soluble in water, and from this solution Mr. Hooper succeeded in extracting a body having the characteristics of an organic acid related in some particulars to chrysophanic acid, but having some distinctly peculiar reactions, and possessing the anti-saccharine property ascribed to the leaves. This body he calls gymnemic acid. He has not yet succeeded in isolating the base with which it is in combination.

Potassium Bromide in the Treatment of Ophthalmic Migraine.—At a recent meeting of the Paris *Société de biologie* ("Gaz. hebdom. des sci. méd."), M. Gilles de la Tourette spoke of a subject of this affection who, having been attacked with such grave accidents as aphasia and epileptic paroxysms, was cured by the prolonged employment of potassium bromide. The treatment, he said, should be continued for several months, from 30 to 45 grains of the drug being given daily for the first week, from 45 to 60 grains the second, from 60 to 75 grains the third, and from 75 to 90 grains the fourth.

Betol.—Under this name, according to Mr. H. Helbing ("Brit. and Colon. Druggist"), the β-naphthol ether of salicylic acid has been patented. Its structural formula is analogous to that of salol (the phenyl ether of salicylic acid), and it is said to resemble that compound in its therapeutical action. It occurs in small tabular crystals, nearly white, is tasteless and almost odorless, and is insoluble in water and in glycerin. It is sparingly soluble in alcohol, and the addition of water precipitates it as a milky liquid.

The Wild Rosemary as a Remedy for Mosquito-bites.—In the same journal it is stated that a teaspoonful of tincture of wild rosemary (*Ledum palustre*), added to half a tumblerful of water, has been recommended as a lotion for the bites of the mosquito and the gnat. It should be applied as soon as the bite is perceived.

A Remedy for Lumbago.—According to the same journal, Professor Burggraeve recommends the application of a mixture of equal parts of collodion, tincture of iodine, and ammonia-water, applied widely over the affected region with a camel's-hair brush, as an "instantaneous" remedy for lumbago.

Milk as a Corrigent of Potassium Iodide.—According to Cacenave de la Ruche ("Therap. Monatsh."; "Internat. klin. Rundschau"), the intolerance of many patients for potassium iodide is effectually overcome by administering the drug in a glass of milk.

ANSWERS TO CORRESPONDENTS.

No. 6.—Write to the secretary, Dr. Clayton Parkhill, corner of Lawrence and Seventeenth Streets, Denver, Col.

No. 7.—Any of the publications mentioned in our "General Literary Notes" may be ordered through Messrs. B. Westermann & Co., 838 Broadway. The cost may usually be assumed to be, for each English *shilling*, French *franc*, or Italian *lira*, 33 cents; for each German *Mark*, 36⅜ cents.

No. 8.—The reasons are given in Webster's "Dictionary," under the word "Mathematics."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

SUPPLEMENT.

AN ABSTRACT OF THE
REPORT OF THE BRITISH COMMITTEE
TO INQUIRE INTO
M. PASTEUR'S TREATMENT OF HYDROPHOBIA.

THE following abstract is given in the "Lancet" for July 2d:

"The report of the committee nominated by the president of the Local Government Board in April, 1886, to inquire into M. Pasteur's treatment of hydrophobia, was presented to Parliament on Monday last.

"The report commences by stating that it was found necessary that some of the members of the committee should, together with Mr. Victor Horsley, the secretary, visit Paris so as to obtain information from M. Pasteur himself, to observe his method of treatment, and investigate a considerable number of cases of persons inoculated by him; and, further, that a careful series of experiments should be made by Mr. Horsley on the effects of such inoculation on the lower animals. Mr. Horsley's experiments are stated to entirely confirm M. Pasteur's discovery of a method by which animals may be protected from the infection of rabies. If a dog, rabbit, or other animal be bitten by a rabid dog and die of rabies, a substance can be obtained from its spinal cord which, being inoculated into a healthy dog or other animal, will produce rabies similar to that which would have followed directly from the bite of a rabid animal, or differing only in that the period of incubation between the inoculation and the appearance of the characteristic symptoms of rabies may be altered. The rabies thus transmitted by inoculation may, by similar inoculations, be transmitted through a succession of rabbits with marked increase of intensity. But the virus in the spinal cord of rabbits that have died of inoculated rabies may be gradually attenuated by drying the cords, so that after a certain number of days' drying it may be injected into healthy rabbits or other animals without any danger of producing rabies; and by using on each successive day the virus dried during a period shorter than that used on the previous day an animal may be made almost certainly secure against rabies, whether from a bite or from any method of subcutaneous inoculation; and this protection is proved by the fact that, if animals so protected and others not thus protected be bitten by the same rabid animal, none of the first set will die of rabies, and, with rare exceptions, all of the second set will succumb.

"It may hence be deemed certain that M. Pasteur has discovered a method of protection from rabies comparable with that which vaccination affords against infection from small-pox. It would be difficult to over-estimate the importance of the discovery, whether for its practical utility or for its application in general pathology. It shows a new method of inoculation, or, as M. Pasteur sometimes calls it, of vaccination, the like of which it may become possible to employ for protection of both men and domestic animals against others of the most intense kinds of virus. The duration of the immunity conferred by inoculation is not yet determined; but during the two years that have passed since it was first proved there have been no indications of its being limited. The preventive treatment adopted by M. Pasteur is based on the foregoing experience; but the determination of the success of the method is far from easy, owing to (1) the difficulty of determining whether the bites were really those of rabid animals; (2) the probability of hydrophobia in persons bitten by dogs that were certainly rabid depending very much on the number and character of the bites, whether they were on exposed parts or parts protected by clothing; and in all cases in the amount of bleeding; (3) in all cases the probability of infection may be affected by speedy cauterizing or excision of the wounded parts, or by various washings, or other methods of treatment; (4) the unequal danger of bites of different species of animals, and even of different dogs. In some groups of cases the percentage of deaths among persons bitten by dogs believed to have been rabid has been estimated at only 5 per cent., in others at 60 per cent., and the mortality from the bites of rabid wolves has been variously estimated at from 35 to 90 per cent.

"By the courtesy of M. Pasteur the committee were enabled to personally investigate ninety cases treated by him, these being mostly those which had been earliest treated, in which the periods since inoculation were longest, and living within reach in Paris, Lyons, and St. Etienne. Among the ninety cases there were twenty-four in which the patients were bitten on naked parts by undoubtedly rabid dogs, and the wounds were not cauterized or treated in any way likely to have prevented the action of the virus; there were thirty-one in which there was no clear evidence that the dog was rabid; others in which the bite had been inflicted through clothes. It is estimated, from experience of the results of bites in other cases, that, had they not been inoculated, not less than eight among these ninety persons would have died. Not one of them has shown since the inoculation any signs of hydrophobia.

"Since, in order to quiet fears, M. Pasteur has been obliged to inoculate many in whom there was no satisfactory evidence that the bite was that of a rabid animal, it might be unjust to estimate the total value of his treatment in the whole of his cases as being more than the rate of mortality observed in them compared with the lowest rate observed in any large number of cases not inoculated. This lowest rate may be taken at 5 per cent; and, as between October, 1885, and the end of December, 1886, M. Pasteur inoculated 2,682 persons (including 127 from this country), the mortality should have been 130. But at the end of 1886 the number of deaths was 31, including 7 bitten by wolves, in whom the symptoms of hydrophobia appeared while they were under treatment; in fact, the actual percentage mortality was between 1 and 1·2, showing, on the lowest estimate, the saving of not less than 100 lives. Of 233 persons bitten by animals in which rabies was proved, only 4 died. Without inoculation, at least 40 would have died. Among 186 bitten on the head or face by animals in which rabies was proved, only 9 died, instead of at least 40. Of 48 bitten by rabid wolves, only 9 died, instead of nearly 30. Between the end of last December and the end of March, M. Pasteur inoculated 509 persons bitten by animals proved to have been rabid; only 2 have died, one of these, bitten by a wolf a month before inoculation, dying after only three days' treatment. The committee think it therefore certain that the inoculations practiced by M. Pasteur have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease. And his discovery shows that it may become possible to arrest by inoculation, even after infection, other diseases besides hydrophobia. His researches have also added very largely to the knowledge of the pathology of hydrophobia, and supplied a sure means of determining whether an animal which has died under suspicion of rabies was really affected with that disease or not.

"The question whether the method itself entails risk to health or life is then discussed, the distinction between the ordinary method and the 'intensive' method being pointed out. By the first method there is no evidence or probability of any danger to health at all; but after the intensive method, which is only practiced in the most urgent cases, deaths have occurred which might possibly be attributed to the inoculations rather than to the original infection. Yet in the worst cases the intensive method is relatively more efficacious than the ordinary method, nor is the rate of mortality greater after the former method than after the latter. Certain cases, one of which is detailed, have, however, excited suspicion from the mode of death. The case related is that of a man bitten by a rabid cat at the Brown Institution, treated by M. Pasteur the next day by the intensive method, continued during twenty-four days, and dying about a month later with symptoms of acute ascending paralysis. The man was very intemperate, and had been exposed to chill while crossing the Channel on his return home. Mr. Horsley proved that his death was due to the virus of rabies, by using a portion of his spinal cord for the inoculation of rabbits and dogs, who died with characteristic signs of paralytic rabies such as usually occurs in rabbits. Yet it is by no means certain that the fatal issue in this and in other cases treated by the intensive method was not due to the original infection. M. Pasteur has, however, greatly modified this plan of treatment, which he employs in none but the most urgent cases.

"The final paragraphs of the report, which embody practical suggestions, may be given *in extenso:*

"The consideration of the whole subject has naturally raised the question whether rabies and hydrophobia can be prevented in this country. If the protection by inoculation should prove permanent, the disease might be suppressed by thus inoculating all dogs; but it is not probable that such inoculation would be voluntarily adopted by all owners of dogs, or could be enforced on them. Police regulations would suffice if they could be rigidly enforced. But to make them effective it would be necessary (1) that they should order the destruction, under certain conditions, of all dogs having no owners, and wandering in either town or country; (2) that the keeping of useless dogs should be discouraged by taxation or other means; (3) that the bringing of dogs from countries in which rabies is prevalent should be forbidden or subject to quarantine; (4) that in districts or countries in which rabies is prevalent the use of muzzles should be compulsory, and dogs out of doors, if not muzzled or led, should be taken by the police as 'suspected.' An exception might be made for sheep-dogs and others while actually engaged in the purposes for which they are kept. There are examples sufficient to prove that by these or similar regulations rabies, and consequently hydrophobia, would be in this country 'stamped out,' or reduced to an amount very far less than has hitherto been known. If it be not thus reduced, it may be deemed certain that a large number of persons will, every year, require treatment by the method of M. Pasteur. The average annual number of deaths from hydrophobia during the ten years ending 1885 was, in all England, 43; in London alone, 8·5. If, as in the estimates used for judging the utility of that method of treatment, these numbers are taken as representing only 5 per cent of the persons bitten, the preventive treatment will be required for 860 persons in all England; for 170 in London alone. For it will not be possible to say which among the whole number bitten are not in danger of hydrophobia, and the methods of prevention by cautery, excision, or other treatment, can not be depended upon.

"The report is furnished with an appendix containing (A) an abstract report of Mr. Horsley's experiments; (B) a report on persons in France examined by members of the committee, with a list of English persons treated at the Pasteur Institute from January, 1886, to January, 1887; and (C) on M. Pasteur's methods of preventive inoculation. The report is signed by James Paget (chairman), T. Lauder Brunton, George Fleming, Joseph Lister, Richard Quain, Henry E. Roscoe, J. Burdon Sanderson, and Victor Horsley (secretary)."

The "Lancet" on the Hydrophobia Committee's Report.—The following passages are taken from the "Lancet's" leading article on the committee's report:

"The definite character of the conclusion reached will probably render the report a surprise to most members of the profession who have compared the divergent opinions that have been so freely expressed by men not ill qualified to judge, and have duly realized the difficulty of the investigation and the many sources of fallacy arising from the character of the facts themselves. It is certainly satisfactory that men so well able to weigh the evidence and to observe the facts, after having had the fullest opportunity of investigating the results obtained at the Pasteur Institute, should have come with one accord to an opinion so precise. Without doubt, their verdict is the most important yet pronounced upon the subject, and must go far to decide the question of the prophylactic value of the inoculations of Pasteur."

. . . .

"It must not be assumed that all parts of the report are of equal value. We have alluded to the sources of fallacy that lurk in the statistics of Pasteur; the members of the committee have taken due account of them, and have endeavored as far as possible to avoid them. To eliminate them altogether is impossible, and the conclusions reached can not have more than a very high degree of probability. But it is otherwise with the experiments instituted by the committee: these are apparently free from all sources of error. They are not numerous, it is true, but their results are unequivocal, and seem to leave no room for doubt that the inoculation with the weakened virus of rabies confers an immunity from the disease. The inoculation with emulsion of the spinal cord of rabid rabbits preserved a series of dogs from rabies, although the most certain conceivable method of inoculation was employed—a bite from an animal in the acute stage of the disorder. In no case did the animal contract rabies, whereas of other unprotected animals bitten at the same time the majority contracted the disease. The experiments thus seem to leave no doubt of the efficiency of inoculation in rendering harmless a subsequent infection. They prove that the malady, as produced by the attenuated virus, is trifling, and they thus confirm two of the most important statements of Pasteur. On the question whether inoculations, made after a bite has been inflicted by a rabid animal, confer the same immunity—a question of paramount importance—the original researches throw no direct light. But the confirmation of the conclusions of Pasteur, in so far as they have been reinvestigated, is not without its significance, for it naturally increases the readiness to accept also those conclusions that have not been the subject of independent study. The statistics of Pasteur have been subjected to a careful examination by the committee, and the conclusion from the analysis is entirely in favor of Pasteur's method. A considerable number of cases were personally investigated, so far as investigation was possible after the lapse of a considerable time. The facts of these cases, the means employed to prevent infection—washing, cauterization, etc.—and the evidence as to the condition of the dog which bit the patients, are described in the appendix to the report. The conclusion drawn from these facts is that in many of the cases the dog was unquestionably rabid, and that a certain proportion of the sufferers would have died from hydrophobia if they had not been treated, and who, being treated, have not suffered from the disease. The conclusion that the method has saved a considerable number of lives, and that it is at present, and probably will be for long, the only mode of saving from death those who have been bitten by a rabid dog, affords strong support to Pasteur's conclusions, and, we need hardly say, must have most important practical results."

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A CLINICAL STUDY OF NEURALGIAS, AND OF THE ORIGIN OF REFLEX OR TRANSFERRED PAINS.*

By C. L. DANA, M. D.

Some excuse may be expected for presenting so hackneyed a subject as neuralgia. I have found, however, that the literature on this topic for a good many years has been mainly devoted to the therapeutics, and it has seemed to me possible that a new study of some of the clinical aspects of the disease might be of interest. In particular, I have hoped to begin at least a collection of facts which might show us whether neuralgia in this country and climate presents the same physiognomy that it does in Europe, whence has been got the basis of most American writings and views of the disease.

In the second place, I have taken up with especial care the subject of the so-called reflex origin of neuralgia and neuralgic pains, and I trust that my investigations in this line may be of some value.

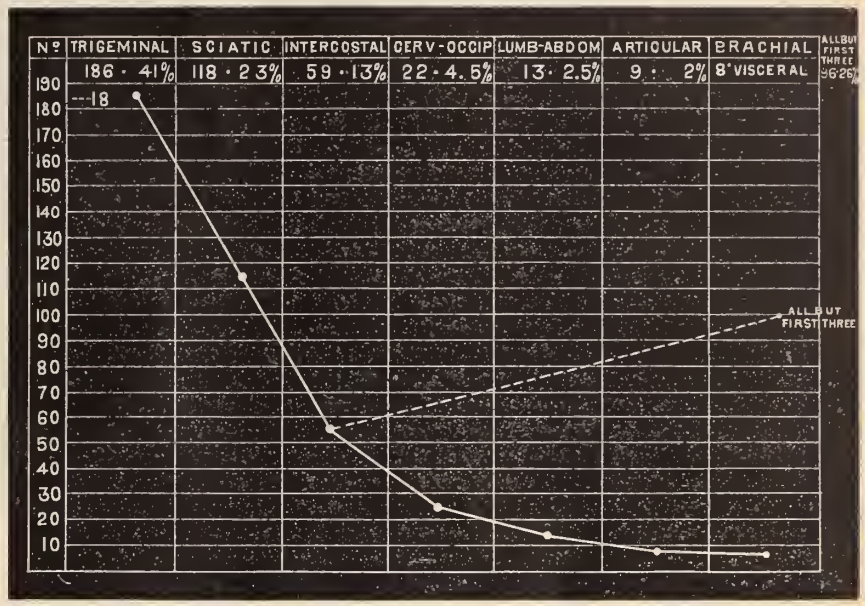
True idiopathic neuralgia is a rare disease, making up not over 2 or 3 per cent. of the various forms of nervous disorder. Symptomatic neuralgias, reflex or transferred pains, and neuralgic pains from toxic causes are extremely frequent, and make up over 10 per cent. of the total of diseases for which the neurologist is consulted.

The statistics on which I base my remarks include all the neuralgias treated by myself for the past two or three years in dispensary, hospital, and private practice, of which I have preserved notes; also records of statistical value, in some directions, of the neuralgias treated during one year at the Nervous Department of the Manhattan Eye and Ear Hospital ("Annual Report," 1884–'85), the Mount Sinai Dispensary ("Annual Report"), Demilt Dispensary (from records kindly furnished by my friend, Dr. William M. Leszynsky), and the Out-patient Department of Bellevue Hospital. My own cases amount to 260, while the total number of cases collected is 453.

I shall proceed, first, to present the facts obtained by studying these cases of neuralgia as a whole.

Frequency.—The table and chart which I have here show that, of 453 cases of neuralgia, 186, or 41 per cent., were of the trigeminal nerve; next to this come the sciatic, with 23 per cent., and the intercostal, with 13 per cent.; then follow the cervico-occipital, 4·5 per cent., the lumbo-abdominal, 2·5 per cent., and the articular, 2 per cent. The brachial is slightly less, while none of the other different neuralgias form much more than a fraction of a per cent. of the whole. This distribution of neuralgias is not in any striking way at variance with those of such other observers as I could find.

Form of Neuralgia.—Trigeminal of all forms, 186 (41 per cent.); supra-orbital, 39; migraine, 31; mixed, 17; infra-orbital, 3; infra-maxillary, 5; tic douloureux, 5—100.



Comparative frequency of occurrence of different forms of neuralgia—453 cases. The dotted line indicates the comparative frequency of all neuralgias—except trigeminal, sciatic, and intercostal—considered together.

Sciatica, 118 (23 per cent.); intercostal, 59 (13 per cent.); cervico-occipital, 22 (5 per cent.); lumbo-abdominal, 13; angina pectoris, 7; gastralgia and neuralgia, 8; articular, 9; crural, 6; brachial and cervico-brachial, 8; testes, 2; urethral, 1; parietal, 2; digital, 1; plantar, 1; palmar, 1; pododynia, 1; coccygodynia, 1; universalis, 1; epigastric, 1; ovarian, 3; larynx, 1; lingual, 1; spinal, 4. All neuralgias, except trigeminal, intercostal, and sciatic, 26 per cent.

As compared with the statistics of Dr. J. Classin, of Kiel, who collected 434 cases, it seems that we have 10 per cent. more trigeminal neuralgias, and slightly more intercostal neuralgias, while the per cent. which he gives of sciaticas (24+ per cent.), and of all neuralgias except trigeminal, sciatic, and intercostal (26+ per cent.), is almost exactly the same as my own, proving, in a striking way, the general representative nature of my collected cases.

With regard to age, the following figures are obtained:

Age.—10 to 25, 99; 25 to 35, 66; 35 to 45, 68; 45 to 55, 38; 55 to 65, 16; 65, 5—292.

A comparison of these figures with those of other observers will show that neuralgias in this city attack persons at an earlier period of life than is the case with patients observed by French and German physicians. Thus, among 543 cases collected by Erb and reported by Valleix, Eulenburg, and Erb, only 171 occurred before the thirtieth year, and about 235 before the thirty-fifth year, while in my cases there were 165 out of a total of 265, or nearly two thirds, before the thirty-fifth year. In my cases one third occurred before the twenty-fifth year, while in Erb's one fifth occurred before that time.

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* Read before the Medical Society of the County of New York, December 27, 1886.

In comparison with Classin's statistics the same result is shown. Thus, 30 per cent. of his cases and 45 per cent. of my own occurred before the thirtieth year.

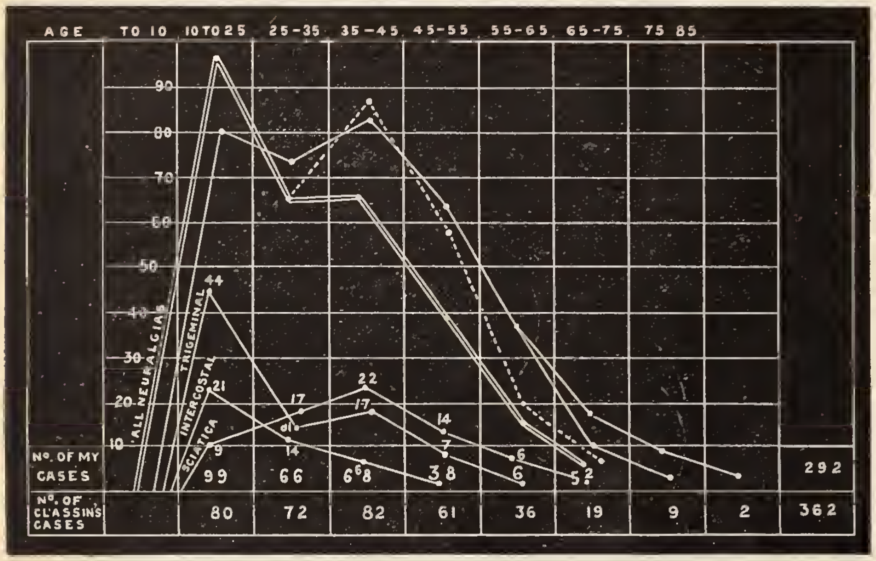


Chart showing the absolute and relative prevalence of neuralgia with reference to age.
The double line represents my own cases; the upper single line, Classin's. The dotted line shows the relative number of neuralgias to persons living at ages indicated. (Of 1,000 persons born, 714 are alive at the 15th year, 500 at the 40th, and 333 at the 65th year.) Classin arranges his ages from the tenth, twentieth, thirtieth, etc., years. I have been obliged to change this and give approximate figures, for the sake of comparison.

Sex.—As regards sex, I find that there were 122 males and 199 females, giving a proportion of about 3 to 5. In Erb's 821 collected cases the ratio was about as 4 to 5 (364 to 457). In Classin's cases the males formed 37·8 per cent. (160), the females 62·2 per cent. (263). These figures are absolutely identical with mine, confirming again the representative character of my cases, and they enable us to say, with much definiteness, that women are more affected with neuralgias than men in the proportion of 5 to 3. If anything, women in this country are attacked in a larger proportional amount than men.

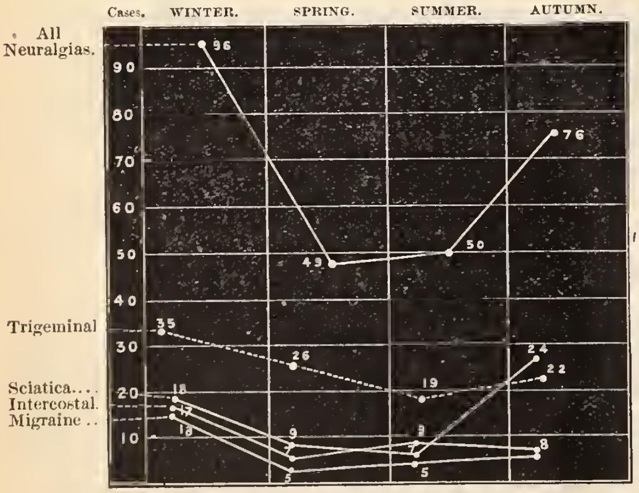


Chart showing the relation of neuralgias to the season—271 cases.

With regard to seasonal influence, not much that is definite has, so far, been established. In my own cases I found the figures as follows: Winter, 96; spring, 49; summer, 50; fall, 76—271.

From this it will be seen that the greatest number of cases occur in the winter months; that there is then a sharp fall in the spring, when the number reaches its lowest point. The number then slightly increases in summer, and reaches a still higher point in the autumn.

The figures of Classin show the greatest number in summer, 117; next in winter, 109; then spring, 107; and last in the autumn, 101. There is certainly, therefore, an increase in neuralgias in summer over the number in spring, while, doubtless owing to our climate, we have a much greater proportional number in the autumn and winter season than is the case abroad. The maximum number of cases in any one month in Classin's tables was in June, and the next in January.

It is at least interesting to establish the fact that in this city neuralgias do not bloom in the spring, but delay their efflorescence until summer, from which time they steadily increase in number in this climate until the end of winter is reached.

Of the special forms of neuralgia, those affecting the different branches of the fifth pair of cranial nerves are by far the most frequent, even excluding, as we do, the numerous diffuse head-pains of all kinds.

Neuralgias of the Fifth Pair.—The fifth pair of cranial nerves is affected with neuralgias of widely different types. They may be classed as follows:

1. The supra-orbital neuralgias. These are the most frequent in number. Supra-orbital neuralgia may occur as the expression of a constitutional neuropathic state—it may, in other words, be a true neurosis; but far more frequently it is symptomatic of some toxic or anæmic state.
2. Infra-orbital or supra-maxillary neuralgia.
3. Infra-maxillary neuralgia.
4. The mixed forms.
5. True tic douloureux. This is a comparatively rare disease, which may take the form of any of the above-mentioned types.
6. Migraine. This generally affects nearly all the branches of the fifth, radiating to the occipital nerves, but it often localizes itself in the upper ophthalmic branches.

We may have, then, true neuralgic neuroses, clinically different from tic douloureux, affecting one or other branch of the fifth. These are not very rare. We have true *tics*, which are rare. Then we have symptomatic neuralgias affecting the different branches, and these are very common.

Finally, we have migraines which are also common.

The comparative number is shown by the following ratio in 100 cases.

Supra-orbital neuralgias (all forms)	39	per cent.
Migraine	31	" "
Mixed trigeminal neuralgias	17	" "
Infra-maxillary	5	" "
Tic douloureux	5	" "
Infra-orbital	3	" "

Trigeminal neuralgias affect the female sex more than the male in the proportion of 49 to 23, or 2 to 1.

The effect of the winter season in bringing out trigeminal neuralgias is very marked, as shown by the following: Winter, 35 (35 per cent.); spring, 26 (23 per cent.); summer, 19 (19 per cent.); autumn, 22 (22 per cent.).

Winter and spring are therefore the worst seasons for the trigeminal nerve, and this is especially the case with tics. Patients suffering from tic generally get some relief in the summer months.

With migraines this is not the case. As will be shown later, summer stands close to winter in the number of these cases.

The trigeminal nerve is the one earliest in life affected with neuralgia, which then shows itself generally in the form of migraine. Aside from the painful *tics*, trigeminal neuralgias are oftenest met with in persons under twenty-five or thirty years, as shown by the following: 10 to 25, 44 cases; 25 to 35, 16; 35 to 45, 17; 45 to 55, 7; 55 to 65, 1—85.

There is an increase in trigeminal neuralgias after the age of thirty-five, due to the development of *tics* and toxic neuralgias. Relatively to the population the number is nearly one third greater between the years 35 and 45 than between 25 and 35.

In supra-orbital neuralgias the left side is affected more than the right in the proportion of 14 to 9. This fact has been observed by others, and recently by Faucheron, who analyzed 100 cases. In the other forms no definite rule can be laid down.

Taking all forms, a preponderance is shown in favor of the left side 31 to 23. In migraines and *tics* the sides are about equally affected (right side 14, left 13).

In most migraines and most supra-orbital neuralgias the attacks were worse or began in the mornings. This was especially the case with those supra-orbital neuralgias curable with quinine and arsenic.

On the other hand, most of the infra-orbital, infra-maxillary, and mixed trigeminal neuralgias were worse in the afternoon and night, especially those forms showing a rheumatic origin. Some indication for treatment is furnished by these facts, for, if the observations are corroborated, they show that rheumatic influences affect the lower two branches of the fifth in a proportionally greater frequency.

A study of the causes of my cases does not furnish anything especially new.

I could only find 5 cases—4 supra- and 1 infra-orbital—that I felt at all sure were due to malaria.

Child-bearing, anæmia, and exposure were prominent causes.

Heredity is a very indirect element except in migraines. On the other hand, the nervous temperament is very often present, and the trigeminal nerve indeed seems to be the first station at which is waved aloft the signal that another victim has been haled into the neuropathic circle.

Migraine.—This form of neuralgia occurs oftener in the female in the proportion of 1 to 3 (males, 8; females, 28).

These attacks occur oftenest in the winter, least in the spring, more in summer, and still more in the autumn: Winter, 16; spring, 5; summer, 7; autumn, 8—36.

So far as I could find, in all my cases except one there was in the main an angeiospastic condition of the arteries of the head. Angeiospastic migraine is the characteristic form in America.

In almost all cases migraine was an hereditary or at least a family disease, alternating sometimes with other neuroses, especially asthma and other neuralgias.

I found two cases only which appeared to be due to asthenia and refractive errors of the eye. Almost all responded well to treatment, and I was not able to convince myself of any peculiar nasal or pharyngeal irritations.

Permit me to add here that the idea that migraine is a disease of the sympathetic system is one of the old medical superstitions which, with the old idea of the sympathetic system, ought to be done away with entirely, and which hardly deserves to be discussed with seriousness. Migraine is a general neurosis like epilepsy, showing itself in nervous discharges, mainly in the area of the fifth. Symptomatically, therefore, it is to be spoken of as a form of trigeminal neuralgia whose manifestations are strikingly associated with vascular and secretory and sometimes motor, visual, and auditory disturbances.

But migraines may occur with very little vascular change, and there are nervous or sick headaches which stand half-way between typical migraine and ordinary rheumatic or gastric headaches.

To illustrate this: There is in particular a form of neuralgia which is often called migraine, and is popularly known as one form of sick headache. In this the pain begins in the back of the head on one side and speedily radiates over to the face on the same side, affecting sometimes the orbital and ciliary nerves, sometimes all the branches of the fifth. It is sometimes accompanied by nausea and even vomiting (especially if right-sided?), but this is not always the case. The face is generally somewhat pale, but not unilaterally so; the eyes are not suffused, nor is there often any visual or aural disturbance as in migraine. Sometimes the pain remains in the occipital nerves, and I have met with one patient who localizes her pain there entirely, and who always vomits during the attack. The paroxysms are brought on oftenest by barometrical disturbances at the onset of cold, damp weather, or in other cases by the approach of the menses, or by emotional excitement. In some cases the attacks are mild and consist only of some dull pains in the occipital and facial regions. While some of these cases may be diagnosticated as migraine, others resemble ordinary attacks of cervico-occipital neuralgia radiating to the fifth nerve, and other cases are likened to bilious headaches.

These pains are all, in my opinion, migrainous in character, though often not recognized as such. They stand in the same relation to typical migraine as hysteroid convulsions stand to the true epileptic attack. They should be treated on this theory.

Intercostal Neuralgia.—This form of neuralgia was met with in 45 cases, of which there were 5 in males and 37 in females. This gives a larger proportion to females than the statistics of Valleix and Basserçau (11 male to 51 female).

The seasonal influence shows a great preponderance in favor of the winter months: Winter, 17; spring, 7; summer, 9; autumn, 8. The attacks occur in the left side more than the right in the proportion of 1 to 3 (right side, 6; left, 19).

Age.—From 12 to 25, 21; 25 to 35, 14; 35 to 45, 6; over 45, 4—45. Most are between the ages of 20 and 35.

Sex.—Male, 5; female, 37.

Season.—December, January, February, 16; June, July, August, 7; September, October, November, 9; March, April, May, 6.

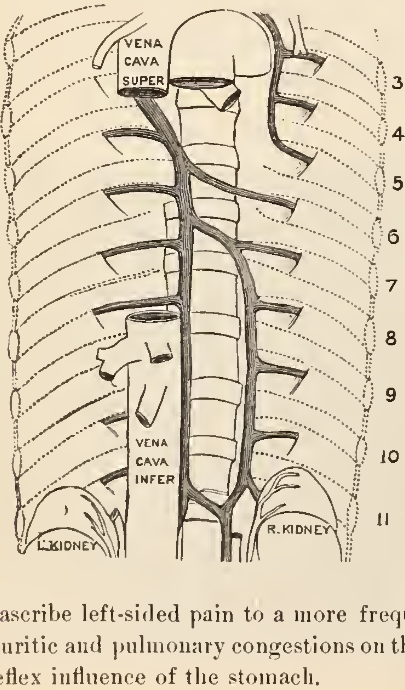
Causes.—Cardiac disease, 1; neurasthenic and anæmic states, 12; ague, 6; tobacco-working, 1; exposure and muscular strain, 6; diabetes, 1; neuritis, 1; dyspepsia and anæmia, 2.

Side.—Right side, 6; left, 19; undetermined, 18.

Pathology.—This form of neuralgia occurs oftenest in neurasthenic, anæmic, and overworked women. Exposure and muscular strain are often noted.

Exciting causes are dyspepsia and constipation and uterine trouble. Mammary neuralgia is especially often attributed to some uterine trouble. But mammary neuralgia is rare compared with the so frequent complaint of "left-sided pain."

This left side is oftener affected according to Luschka, because the arrangement of the azygos veins on that side tends to allow a stasis of blood, those veins passing underneath the descending aorta and thoracic duct.



Others ascribe left-sided pain to a more frequent occurrence of pleuritic and pulmonary congestions on the left side, or to the reflex influence of the stomach.

Uterine disorders which produce a congestion of the pampiniform plexus in the broad ligaments are said to produce left-sided pain by reason of the fact that there are no (or few) valves in these veins, that they pass behind the sigmoid flexure (in which position they may be compressed), and that they empty into the renal vein at a right angle. The objection to this oft-quoted theory is that the veins in question are below the level of exit of the affected nerves, so that any pressure pain would be felt in the thigh or gluteal region unless it were reflected or transferred to higher branches.

More has been said than need have been about the reflex origin of intercostal neuralgia. In my experience only a small proportion are cases of transferred or reflex origin. Most intercostal neuralgias have much the same history and course as supra-orbital neuralgias, and they respond to antineuralgic treatment in the same way. I shall return to this subject later. Probably one half the pains in the side are myalgic in nature, and should be classed as pleurodynia. These pains can be distinguished by the history of their origin and of rheumatic influences, by their diffuseness and dullness, by the great tenderness on pressure, and the pain produced on taking a deep breath.

There is another considerable proportion of cases in which the pains are mainly neuralgic, but yet there are some evidences of muscular complications.

In the third class of cases there is the pure stabbing neuralgia, the pain paroxysmal and not increased, as a rule, by movement or pressure.

These distinctions between neuralgic, myalgic, and neuro-myalgic pains are important from a therapeutic point of view. In the purest types of intercostal neuralgia, antirrheumatic remedies rarely do good, while the neurotic and anodyne drugs check it very rapidly.

A study of the various pains in the back and side leads me to this therapeutical aphorism—viz., plasters are for the back, blisters for the side. This means simply that most side-pains have a predominating neuralgic element, while most back-pains are myalgic, owing to the greater muscular mass at this point. Anodyne and stimulating plasters, as ordinarily made, have little influence over neuralgia.

The preponderance of pain on the left side seems to me probably due in part to the law that the left half of the body has less resisting power, so far as nervous phenomena are concerned, than the right, exhibiting at all levels a greater number of neuralgic, spasmodic, and other sensory and motor troubles of functional origin.

The so-called tender points in intercostal neuralgia are certainly much less frequently found than is supposed. There is tenderness over the seat of pain always; sometimes a second tender point is found in the back or anteriorly near the sternum, while only very rarely have I found the typical three tender points at the exits of the posterior, lateral, and anterior branches of the intercostal nerves. They may be felt in very chronic cases.

There is a form of intercostal neuralgia not generally recognized as such, because the pain is seated in the neighborhood of the anterior upper crest of the ilium, just at the distribution of the lateral cutaneous branch of the last dorsal nerve. The pain is quite sharply limited and there is tenderness on pressure.

(*To be concluded.*)

THE TREATMENT OF PULMONARY DISEASES BY GASEOUS ENEMATA.*

By GEORGE DALTON HAYS, M. D.,
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The attention of the medical profession has lately been widely drawn to Dr. Bergeon's method of treating diseases of the respiratory passages by means of enemata of sulphureted hydrogen. It is proposed in this paper to direct your attention to some of the results thus far obtained. First, however, it is important to state that the writer has approached the subject from a purely clinical standpoint. He has, he believes, avoided entirely, both in his investigation of the method and in his report thereon, any of that enthusiasm which is apt to follow the introduction of new remedies, and which for a time clouds the calmer reasoning faculties and renders an impartial judgment impossible.

My practical acquaintance with this therapeutic measure began in February past, when, learning that it was being extensively employed in Philadelphia, I made a visit to that city.

The first of the original apparatus brought to this country was then still in the clutches of the custom-house officers, but Dr. J. Solis-Cohen, to whom it belonged, had already in wide use a modified form of apparatus in imitation of this one designed by Morel. With Solis-Cohen I went to the Polyclinic, where Mr. Kyner gave me a demonstration of the method upon a phthisical patient then in waiting. On my return to New York I visited some of the city hospitals where this plan of treatment was being tried, and then began its employment in my office.

A few weeks ago I again visited Philadelphia and made a tour through all the hospitals of that city where the method was in use. I have been enabled to collect from my clinic at the Northeastern Dispensary, from cases referred to me by other physicians, aud from private practice, some twelve patients the subjects of various forms of phthisical lesions and two other patients affected with chronic bronchitis. On April 16th, in a preliminary report made before the Clinical Society of the Post-graduate Medical School, I stated that in the twelve cases I had then on hand improvement had been noted in ten. This statement holds good at the present time. The method of administering the gas has been so fully described in the journals that there is no need to recapitulate it here. Too great insistence, however, can not be laid upon the importance of employing perfectly pure carbon dioxide, as otherwise intestinal irritation is apt to be produced. The best method of obtaining this result is to generate the gas by the action of tartaric acid upon bicarbonate of sodium, and to wash the product thus obtained. The use of the mineral acids is less preferable on account of the possible formation of irritating vapors. For the production of the sulphureted hydrogen in a pure form Bergeon has deemed it essential to confine himself to the use of the Eaux Bonnes water. This water as exported in bottles, however, can not be depended on, some samples containing, or at least generating, no gas whatever.

Various natural sulphur-waters have been employed in the United States, especially the Red Sulphur Spring water of Virginia, and the White Sulphur Spring water of Sharon. This latter I have had bottled expressly for me, and sent to me direct from the springs. It has proved eminently satisfactory. The objection made to the employment of such waters is, that with their use we are unable to estimate the quantity of sulphureted hydrogen which finds its way into the intestine of the patient. We can reach no scientific data, we are told, unless we accurately measure the dose which we employ in each case. To meet this objection certain solutions have been suggested, most notably that of Dr. Bardet, Chief of the Therapeutic Laboratory of the Cochin Hospital, Paris. The sulphureted solution contains ten grammes of sodium sulphide in one hundred cubic centimetres of distilled water, and is made by passing pure sulphureted-hydrogen gas through a pure solution of soda. One cubic centimetre of the liquid "will generate exactly ten cubic centimetres of sulphureted hydrogen." The acid solution used for setting free the sulphureted gas is made by dissolving twenty-five grammes of tartaric acid and one gramme of salicylic acid in one hundred cubic centimetres of distilled water. The salicylic acid is added merely as a preservative. One cubic centimetre of this solution "entirely displaces" the sulphureted hydrogen of one cubic centimetre of the preceding. Before the Biological Society of Paris, M. Morel stated that the dose of the gas was twenty-five cubic centimetres. I have employed this solution in about 50 per cent. of my cases. Dr. Bardet advises the addition of some vegetable acid to increase the efficiency of the natural sulphur-waters, when such are used. Carbon disulphide has also been employed as the source of the sulphureted gas. If this substance is chosen, the gas which is generated thereby must be very carefully washed, as otherwise intense smarting is produced which may last all day, and not infrequently severe attacks of diarrhœa. It has also caused severe nervous disturbances.

In the "Lancet" of April 23d, Dr. James M. Williamson points out that much caution is needed in such employment. It produced in one patient "great irritability and moroseness, and a tipsy feeling which so distinctly amounted to incapacity for work or clear thinking as to be noticeable by others."

Solis-Cohen first suggested * placing the mineral-water bottle in a bath of warm water, as by this means the injection was rendered more grateful. I think this is a valuable suggestion. The quantity of carbonic-acid gas to be injected each time varies from one to six litres, the amount depending on the way in which it is borne by the patient. The first administration should be tentative, as the range of individual peculiarities in this respect is quite wide. Dr. Bergeon states that two injections should be given daily, but in Paris rarely more than one is employed, unless the patient can stand but very small quantities at a time. Three hours after a meal is thought to be the best time for administering the gas, as it is apt to disturb the digestion when given on a full stomach. An exact observance of this rule, however practicable in a well-equipped hospital, is obviously impossible in private practice where not more than one patient can be attended to at a time. A much more important condition for the securement of painless administration is that the large intestine be empty. In several cases I have been able to remove all discomfort by instructing the patient in whom it had arisen to thoroughly empty the bowels either with some laxative mineral-water or with an enema before each subsequent employment of the gas. In a few cases, especially those in which the colon was torpid, the gas has created the desire to go to stool, while in one other case its continued use has created a moderate degree of constipation.

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* Read before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, May 27, 1887.

* "Medical News," April 2, 1887, Philadelphia.

Desirous of becoming acquainted with the sensations, if any, produced by these injections, I administered to myself six litres of the carbonic-acid gas, passed through the sulphur-water in the regular way. For ten minutes after I had made the experiment I was conscious of no effects whatever, after which I had a taste in my mouth as though I had indulged rather too freely in eggs and they had dis agreed with me. Now that I have presented the method itself, it may be well to pause for a moment and recall the mixture of fact and theory upon which it is based.

Phthisis (we are told) is an infectious disease, characterized by the presence of a special microbe—the *Bacillus tuberculosis.* The pulmonary tissues, being in some way weakened, either by inherent or by acquired causes, take on the suppurative process and absorb certain infectious materials, which circulate through the system and give rise to septicæmia. There is no reason to believe that the bacillus itself is the cause of all the grave phenomena of phthisis. Indeed, as Dr. Daremberg says, the true state of the matter probably is, the bacillus is almost nothing, the septicæmia everything. "The ideal end toward which we should strive," said M. Debove in 1883, "when we are in the presence of a parasitical malady such as phthisis, is to find a parasiticide acting in the interior in the same manner as the external remedies used for the itch. It is necessary to find a substance which, without injuring the system, will be destructive to the parasite." This is the hypothesis with whose claims to acceptance or otherwise we have at present nothing to do. Now for the facts. As long ago as 1857 Claude Bernard discovered * that if toxic substances, in not too large quantities, were introduced into the body at a distance from the arterial system, they were eliminated without producing any deleterious influences upon the economy.

During their transit through the body they are removed by the bile, or, if volatile, by the lungs. Reasoning from these grounds, Dr. Bergeon aimed to introduce through the rectum sufficient quantities of some antiseptic material to prevent the development of the tubercle bacillus without unfavorably affecting the condition of the patient. This does not necessarily imply the destruction of the organism, but rather a prevention of its deleterious effects upon the pulmonary tissues. The history of the various substances employed by Dr. Bergeon before he finally adopted those now recommended is apart from our subject. As for the use of sulphur in the treatment of phthisis, we are well aware that this is no novelty; these vary, Eaux Bonnes having long been especially famous with European physicians. In a recent article on this subject, Dr. H. C. Wood* says that the good results obtained by the gaseous enemata have induced him to prescribe a solution of sulphureted hydrogen to be taken by the stomach, and that the effects upon the disease have seemed to be entirely in accord with those obtained by the rectal injections. The experience of Dr. Bergeon leads him to believe the stomach unsuitable for this purpose, and he states that the ingestion of sulphur-waters in phthisical subjects frequently incites hæmoptysis, and that in the case of a patient under the care of Dr. Coutaret, of Roanne, it was the immediate cause of death.

Attempts have also been made to administer sulphur by inhalation. To the north of Naples and in the rear of Pozzuoli is the crater of an extinct volcano called the Solfatara. At the junction of the floor with its wall are a number of volcanic vent-holes called *stufe*, from which is emitted a vapor charged with fumes of sulphur and arsenic. The first attempt to utilize these fumes for medical purposes was made by Dr. Abele Franza in 1871. A Russian affected by advanced tubercular disease was removed from Naples to Pozzuoli, and during six weeks carried to the Solfatara in order that he might inhale the vapors. Many similar cases have been reported, among others that of the son of Dr. H. R. Storer, of Newport, who is said to have commenced to improve immediately after resorting to the crater. In a recent journal † article Dr. Hugenschmidt, of Paris, states that, at the mineral-springs of Allevard, France, Dr. Niepce has for many years treated phthisical patients with sulphureted-hydrogen inhalations obtained by projecting a stream of the sulphur mineral-water against a concave plate, which causes it to be thrown into spray, and liberates the gases which it contains. This plan is said to have cured many patients, the bacillus beginning to disappear shortly after the initiation of the treatment, and ultimately being entirely absent from the sputa.

While in Philadelphia I was shown by Dr. S. Solis-Cohen a preparation called "Pictet Liquid," consisting of a combination of sulphur dioxide and carbon dioxide (sulphurous and carbonic anhydrides, SO_2 and CO_2) liquefied under pressure, and forced into siphons resembling those in which carbonated mineral-waters are dispensed. When the finger-valve is depressed, the mixture emerges in the form of vapor. Dr. Bartholow had proposed, he said, to place the patient with phthisical lesions in a small apartment, the atmosphere of which was saturated with this vapor, and which he was to be directed to inhale. This plan, he thought, might come to supersede the Bergeon method. The treatment of phthisis by inhalations of various antiseptic substances has not thus far, however, won the confidence of the profession. A great deal of ridicule has been cast on the method under consideration, as being based on fallacious reasoning. The gas is supposed to act antiseptically upon the diseased pulmonary surfaces, and yet, say these detractors, the gas itself, at least in any quantities consistent with the safety of the individual, is not an antiseptic. The fact that it is a frequent product of the putrefaction of organic matter, both animal and vegetable, should prove this, and, what is still more significant, an examination of the sputa in those supposed to be benefited by its use shows the continued presence of the *Bacillus tuberculosis.* In the first place, arguments of this character are of a very low order of reasoning. To throw doubts on the fact because we have not positive explanation of its cause is in the highest degree unscientific.

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* "Leçons sur les substances toxiques et medicamenteuses," pp. 52 et 59.

* "The Treatment of Phthisis by Sulphureted Hydrogen," "Therap Gazette," April 15, 1887.

† "Medical News," Philadelphia, May 7.

Just how important a rôle the bacillus plays in the development of phthisis is far from satisfactorily determined. Moreover, it may very well be, as suggested by Dr. Morel, that by the use of the gas the injurious influence of the bacillus is neutralized; that, by producing in its environment some change whose nature is still unknown to us, this bacillus is reduced to the same condition of harmlessness as that shown by numerous other microbes present in the lung, to which no deleterious influences have ever been assigned. Still further,* Dr. Pilatte, who undertook researches on the relative power of the different antiseptics known as regards their action on the tubercle bacillus, stated that "of all the antiseptics employed, sulphureted hydrogen was the most reliable, preventing the development of the bacillus, at the same time destroying this micro-organism."

Now as to the therapeutic value of this treatment, as judged by the results thus far obtained. Dr. Bergeon, its originator, reports more than two hundred cases in which he has employed it during the past two years, and states that in it he has found a means of relieving almost every case of phthisis, asthma, and chronic bronchitis, and of producing cures in a very considerable proportion. Cases of incipient phthisis are controlled within a very short time, and ultimately cured, while advanced incurable cases are greatly ameliorated. The temperature falls, the pulse is lowered, the night-sweats cease, the cough becomes less, the expectoration greatly diminishes and ceases to be purulent, the appetite returns, and the patient increases in weight. Those in whom he considers cures to have been obtained have ceased to expectorate, and have been able to resume laborious occupations without evincing discomfort or losing ground. These, on physical examination, present the signs of cicatrized or cicatrizing cavities or other evidences dependent on the repair of old lesions. Pharyngeal and laryngeal tuberculous ulceration, whenever present, have been cured at the same time, without recourse to any other treatment.

How far have these results been substantiated by other observers? In Europe this mode of treatment has been adopted and favorably reported on by Dujardin-Beaumetz, Constantin Paul, Queril, Vaillat, Chantemesse, Henry Bennet, and Burney Yeo. In this country the first to employ and report on the method were J. Solis-Cohen and Edward T. Bruen, of Philadelphia, and both very favorably. Moreover, in personal interviews with the former and with the resident physicians in all the Philadelphia hospitals, the present writer was strongly impressed with the earnest tone of conviction with which these gentlemen spoke. In no case were any extravagant pretensions made for it. The treatment, it was said, relieved all the symptoms; it was too early to state what influence it had on the ultimate course of the disease. In this latter respect the greatest difficulty was experienced, because as soon as the symptoms subsided the patients were apt to consider themselves cured, and leave the hospital. I was particularly interested in one case under the care of Dr. Bodamer, of the German Hospital, in which the patient before the commencement of the treatment had a temperature of 104·5° F. Three days after the employment of the gas the temperature had fallen to 99·5° F., and since that time it has never risen above this point. Some patients, he said, had gained as much as nine pounds in four weeks. Again, at the Philadelphia Hospital, Dr. R. A. Taylor referred to a case of so-called "catarrhal pneumonia" (phthisis florida), with consolidation of the left lung, in which the pulse was 120, the temperature 100° to 103°, and the expectoration a pint and a half of purulent material daily. After the administration of the gas had been continued for a time the temperature became normal and the pulse 90, while the expectoration rapidly diminished and eventually disappeared.

In regard to my own experience with the treatment, I regret to state that I am not able at present to report many of my cases in detail. This is largely due to the very great difficulty which I have had in following them up. Thus far I have been unable to retain but three patients over three weeks at a time. The twelve cases in which I have employed this treatment have represented every stage of phthisis, from incipiency to utter hopelessness. Two cases belonging to the latter type have yielded me negative results, but in every one of the others there has been a marked control of the symptoms. Twice the treatment has been intermitted for a couple of days, and on both occasions the patients have relapsed, to become better again upon its resumption. I have found considerable difficulty in some cases, especially in women, in inducing the patients to submit to what seemed to them a ridiculous form of treatment, and still greater difficulty in having them continue it after they had progressed to a certain stage. One patient however, has been continuously under my care for five weeks. I propose to give you the history of this in detail, and some data concerning the others:

Case I.—The patient is a male, aged thirty-seven, born in Germany; his father died of cancer; the cause of his mother's death is unknown. He came to this country eighteen years ago, at which time his three brothers and one sister were in fair health. He has not heard from them since. By occupation he is a waiter. His illness dates from a year ago last February, when he caught "cold," and suffered in addition with a severe attack of rheumatism. He was under some medical treatment, but his cough continued, and on the 14th of September last he had a hæmorrhage. This was repeated at a later date, after which he developed pain in the right chest, fever, night-sweats, and copious expectoration of a starchy material mixed with pus. My acquaintance with the patient began on April 17th of this year, when he presented himself at the dispensary. He was extremely pale and greatly emaciated, and had considerable dyspnœa. His temperature was 101·7° F., pulse 120; he had anorexia, had night-sweats, and was unable to sleep. On physical examination, a large area of consolidation was discovered on the right side, as evidenced by percussion-dullness, bronchial breathing, and subcrepitant râles. The patient appeared at my office the next day, and I began with him the administration of the gas. His daily expectoration at this time weighed about eight ounces. On the fifth day his temperature was 100° and pulse 110; he coughed very much less, his expectoration had greatly diminished, and he had slept the greater part of the previous night. On the eighth day his temperature was 99°, and pulse 100; his appetite had returned, his cough was slight, his expectoration had diminished to four ounces, he slept well, had no night-sweats, and was troubled with dyspnœa only on considerable exertion. He continued in this way until the fourteenth day, when I left the city for a couple of days, and the treatment was temporarily discontinued. On my return (seventeenth day from commencement of treatment) his temperature was 101·5° and his pulse 110; he had sweated profusely on the previous night, his cough had returned, and he had been unable to sleep. After two further treatments he regained his previous improvement. His gain from this time on was steady, though occasionally the cough was troublesome at night. His improvement continues at the present time. His temperature is frequently 98° in the morning; at no time is it over 99°. His pulse averages 94. His expectoration is diminished to two and a half ounces daily. His appetite is fair, sleep good, and cough comparatively slight. (A remarkable fact connected with this patient is that, while he has otherwise improved, he has lost a pound and a half in weight.) Recently I again intermitted the treatment for thirty-six hours, when all the patient's discomforts returned, and in addition he had a slight hæmorrhage.

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* "Med. News," May 7th.

Summary—Case I.

	Temperature.	Pulse.	Weight of daily sp'ta	Body weight.	No. of stools.
April 17	101·7°	120	8 ℥	121½	2 daily.
May 27	98–99	94	2½ ℥	120	1 daily.

Desiring to have the diagnosis confirmed, I sent him to Dr. Andrew H. Smith, who reported as follows: "I find the patient, H. S., presenting the following signs and symptoms: Respiratory movements on right side restricted; marked percussion-dullness from right apex down to the fourth rib, anteriorly and posteriorly; prolonged high-pitched expiration, and greatly increased vocal resonance and fremitus, extending from the apex nearly to the base, before and behind. *No moist râles.* Pulse 98, temperature 99°."

There had been no râles present for a considerable time past.

Case II.—Ellen McB., aged twenty-six, occupation domestic. Father and one sister died of consumption. Has been sick for two years; had a hæmorrhage one year ago. Has at present, March 29th, dyspnœa, night-sweats, and profuse expectoration. Temperature 101°, pulse 110. Examination reveals a cavity in the apex of the right lung; consolidation from third rib to base of chest. Treatment commenced April 1st; patient weighs 102½ pounds; daily sputa weigh about eight ounces. Injected three litres of carbon dioxide over Sharon water.

April 2d.—Injected six litres as above.

3d.—Cough was less last night and patient slept.

4th.—Night-sweats have greatly diminished. Temperature 100°, pulse 95.

8th.—Coughs principally on rising; daily sputa weigh about five ounces. No night-sweats, appetite fair; temperature 99·5° F., pulse 90.

15th.—Good condition continues; sputa, four ounces; patient weighs 104 pounds.

22d.—Patient thinks she is "nearly cured." Examination shows diminution of bronchial symptoms; no moist râles; other physical signs unchanged. Weight about 105 pounds. Temperature 99°, pulse 88. Sputa weigh about three ounces and a half.

24th.—Patient did not present herself.

25th.—Inquiry at patient's address shows she has left the city as servant to some family.

Summary—Case II.

	Patient weighed.	Temperature.	Pulse.	Daily sputa weighed.
April 1............	102½ lbs.	101°	110	About 8 ℥
April 22..........	105 "	99	90	About 3½ ℥

Case III.—Charles B., German, aged twenty-eight, cigar-maker. Mother died with "some chest trouble"; other history good. Has dyspnœa, night-sweats, cough, pain under right nipple. Sick six months. Hæmorrhage two months ago. Examination shows small cavity at right apex; consolidation of upper portion right lung; localized pleurisy on affected side. Pulse 120, temperature 102°.

April 6th.—Treatment commenced with three litres of carbon dioxide over a solution of potassium sulphide, with tartaric acid.

7th.—Complains of bad taste. No improvement.

8th.—Cough and expectoration somewhat less. Temperature 101°, pulse 110.

12th.—Sweats less; sleeps mostly all night; eats more. Temperature 99·7°, pulse 102.

19th.—Patient improved *symptomatically* in every way. Temperature 99·5°, pulse 100.

20th.—Patient disappeared and has been lost sight of.

Summary—Case III.

	Temperature.	Pulse.	Sputa (19) measured about half bulk of 6th.	Body weight not ascertained.
April 6............	102°	120		
April 19..........	99·5	100		

The writer has no hesitancy in saying that these three cases represent the best results he has thus far obtained. The two bronchial cases have certainly improved very markedly, one being of the chronic, the other of the subacute form. These patients are still under treatment. The two phthisical patients in whom no improvement whatever was noticed were both far advanced in their illness. They were bedridden and occupied foul-smelling rooms in tenements, and the treatment was not long continued, as the conditions were dispiriting.

It must have appealed to every one who has used this treatment, and even to those who have read of the results obtained by others, that the element which is brought under control is the suppurative tendency. The view has been already stated that the progressively bad symptoms in a case of phthisis are probably due to the consumption proper —that is, to the wasting of tissue caused by the absorption of morbific material, the result of the presence of more or less extensive suppurating surfaces in contact with the air. However wide of the mark the explanation may fall, the facts are as stated. The symptoms which we are accustomed to associate with the presence of pus in other parts of the body—such as hectic, night-sweats, anorexia, etc.—are at once those which tell so rapidly upon the phthisical patient, and which so certainly disappear upon the continued employment of this treatment. We have long been accustomed to treat the suppurative state, as shown by the appearance of successive crops of boils, by the internal administration of sulphide of calcium or of dilute sulphurous acid, and with undoubted success. Indeed, a very large proportion of the therapeutical remedies used in the treatment of diseases which in recent years have been proved to possess a parasitical origin, are eminently microbicidal in their nature. In this instance, as in many others, empiricism has outrun science. Whatever be the future this treatment may hold in store for us—whether its light be a mere Will-o'-the-Wisp luring us by its fitful glare still deeper into the darkness which overshadows us, or that of the star, presaging the change that is to be, and guiding us in security toward the coming dawn—we can not afford to deny it a thorough trial. Certainly we have to acknowledge the inutility of all methods we at present possess. The proper attitude of mind for the student of Nature, when seeking for new truths, is neither in belief nor in unbelief, but in the exercise of the purely critical faculties.

"Here are sundry suppositions," says Herbert Spencer,* "which the man of science severally tests by observations and necessary inferences. In this he rejects such as unquestionably disagree with unquestionable truths. Continually excluding untenable hypotheses, he waits to decide among the more tenable ones, until further evidence discloses further congruities or incongruities. Checking every statement of fact and every conclusion drawn, he keeps his judgment suspended until no anomaly remains unexplained. Not only is he thus careful to shut out all possible error from inadequacy in the number and variety of data, but he is careful to shut out all possible error caused by idiosyncrasy in himself."

324 East Fiftieth Street.

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* "Study of Sociology," New York, 1878.

Morphine and Apomorphine in Whooping-cough.—Dr. Fedoroff ("Proc. of the Arkhangelsk Med. Soc."; "British Medical Journal") states that he has observed good results from the administration, four times a day, of a tablespoonful of a mixture containing 2 grains of morphine hydrochloride, 1 grain of apomorphine hydrochloride, $\frac{1}{2}$ drachm of hydrochloric acid, and 8 ounces of distilled water. The paroxysms are lessened in number after the first few doses.

A STUDY OF THE PRINCIPAL OBJECTIONABLE FEATURES OF INTUBATION.*

By CHARLES E. SAJOUS, M. D.,

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As the literature of intubation increases, a firm believer in its many advantages can not but behold with regret the statistical evidence which, although numerically increasing daily, does not improve its relative position as regards its powerful opponent, tracheotomy. This is certainly a source of sorrow to the physician who has had repeatedly to witness the mental agony of fond parents, for he hailed intubation as at least a substitute to the ever-dreaded knife—a substitute entailing less physical suffering upon the patient, less mental suffering upon the relatives. These advantages not only implied greater liberty of action, but less hesitation, less delay, not uncommon causes of a fatal issue.

The proportion of recoveries after tracheotomy, according to Agnew, who based his calculations upon ten thousand cases, is about 30 per cent. In intubation, a list of three hundred and fifteen cases, computed by myself, showed that only $25\frac{1}{10}$ per cent. were successful—a difference of $4\frac{9}{10}$ per cent. in favor of tracheotomy. It does not compete with the latter, therefore, but stands second to it, to be resorted to when the former is not permitted. This secondary position it has about held for the past year, and since, as time advances, there does not seem to be an increase in the proportionate number of recoveries, the profession is gradually becoming accustomed to intubation in the light of an easier, but less promising, operation than tracheotomy.

O'Dwyer's contribution to practical medicine is worthy of a higher standard. Its inherent qualities are too numerous not to raise it ultimately to the first rank. Had Bouchut been able to present even the bare 25 per cent. of recoveries, and "tubage" received since then the attention that tracheotomy has received, and consequently reached the perfection that the latter has, the question of comparison would not to-day present itself. Tracheotomy would not only be secondary to intubation in the sense here understood, but it would be limited entirely to different classes of cases. As it stands to-day, intubation is encumbered in its progress by not a few real defects. Analyzing these, and studying their cause, will, I am sure, lead to their early correction, and soon annul the dangers resulting from them. In presenting this paper I merely wish to record the result of a little thinking, and in doing so it is my humble desire merely to suggest a plan of action that will, in my opinion, soonest bring about the desired result. In this I feel that I am morally supported by Dr. O'Dwyer; and, if I differ with him in several emitted opinions and herein present them without reserve, he will, I hope, bear in mind that I am one of his warmest admirers.

I am confident of the ultimate success and of the greater ultimate comparative value of intubation over tracheotomy, because I am of the opinion that the difficulties militating against the former are purely mechanical; while a close study of these mechanical defects has led me to believe that they are in turn due to erroneous conclusions as to the relative action of several prominent factors in the general plan of procedure.

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* Read before the American Laryngological Association at its ninth annual congress.

Taking the principal objections to intubation, and arranging them according to the degree of danger attending them, we have:

1. Obstruction of the tube by fragments of membrane.
2. Crowding down of loose membrane during introduction of the tube.
3. Passage of food through the tube into the trachea, and consequent inability to feed sufficiently through the mouth.
4. Momentary arrest of respiration during introduction, and shock resulting therefrom.
5. Liability of the tube to be coughed out, and slipping of the tube into the trachea.

1. *Obstruction of the Tube by Fragments of Membrane.*—This defect I believe to be due (1) to the limited diameter of the interior of the tube; (2) to its internal conformation.

As to the first defect, Dr. O'Dwyer considers a limited diameter of the tube necessary to preserve the expulsive force of cough in the expulsion of detached pseudo-membrane. To use his words: "Cough, to have its full expulsive power, requires a full inspiration, complete closure of the glottis, and then a violent expiratory effort, which compresses the air in the lungs, and forces it through the small space between the still contracted vocal cord. Coughing through a tube, on the contrary, whether in the larynx or trachea, means inability to close the glottis, with little power of compressing the air, and, consequently, little expulsive power. Therefore, the smaller the tube, compatible with free respiration, the better, as there will be more power to expectorate, and less accumulation of secretions in the air-passages, which predisposes to the development of bronchial catarrh and broncho-pneumonia." I can not agree with him in this opinion. The tube hanging loosely in the cavity of the trachea, and the head only closing the laryngeal aperture by its weight, it seems to me that the smaller the interior of the tube, the smaller the tube proper, and the more chance for the expulsive air-current of the cough to force itself out *around* the tube, between tissues too much swollen to render respiration between them possible, but still not resisting enough not to separate under the pressure of the air-column. The force exerted upon the membrane choking the tube depends, therefore, upon the amount of resistance the tissues surrounding the tube present to the passage of the air-current; if that resistance is great, and the membrane not too tightly wedged in the cavity, the fragment will be coughed out; if the surrounding tissues and the impacted membrane present more resistance than the air-current is able to overcome, the tube will be coughed out, if the latter is held loosely; if, on the contrary, the tube is too tightly held to be coughed out, asphyxia ensues. Here a defect becomes a virtue, and I do not think that I am mistaken in saying that loose tubes have saved many lives.

Close apposition of the vocal bands is only necessary to the expulsion of very small masses. We all know the power of the voiceless "hem" to bring up even quite small quantities of mucus, and the violence with which this movement sometimes causes small particles of mucus to fly out through the mouth. In the execution of this movement the vocal bands remain quite a distance apart. Bouchut states that in one of his cases great cyanosis existed, and that this was relieved by the ejection of false membrane through his tube. In a second case, the introduction of the tube was followed by the expulsion, at two different times, of *casts* of the primary bronchus. Bouchut's tubes were large. Have we not here practical evidence that a narrow aperture is *not* necessary for the proper expulsion of the pseudo-membrane?

For the proper expulsion of loose membrane from any part of the trachea, the power of the air-current must exert itself equally upon all parts of the cavity, in order that every part of it be impinged upon by the mechanical pressure that the air-current affords. In order to obtain the greatest advantage from this force, the upper opening of the trachea must approximate as much as possible its general diameter, including that of the portion immediately above the bifurcation. If the upper orifice is constricted, the expulsive force centers itself there, and exerts no influence upon the pseudo-membrane. At the same time, only a part of the air-current passes out, while a part recoils, to counteract, to a degree, the expulsive force. A natural indication resulting from this argument would be to use a laryngeal tube approaching as nearly as possible the diameter of the normal larynx. I can not agree, therefore, with Dr. O'Dwyer, who says: "The smaller the tube compatible with free respiration, the better, as there will be more power to expectorate and less accumulation in the air-passages, which predisposes to bronchial catarrh and broncho-pneumonia."

2. *Crowding down of Detached False Membrane during the Introduction of the Tube.*—This accident has occurred a sufficient number of times to render it worthy of a prominent position in the list of dangers accompanying the operation. I believe it to be due principally to the length of the tubes. "The object of having them so long," says Dr. O'Dwyer, "is to retain the pseudo-membrane *in situ* as it becomes detached from the tracheal walls until maceration takes place." I am inclined to consider this as a dangerous measure; it seems to me contrary to all teachings to mechanically retain over their seat of formation masses of an infectious product that serves but to add to the general toxæmia, both through the blood and through the inspired air. As prompt a deliverance of all pseudo-membrane as possible would seem to me more compatible with our efforts to prevent extension to the lungs proper.

This reason, therefore, does not appear to me to hold good in accounting for the inordinate length of the tubes. Their action in crowding down membrane needs no explanation. The deeper the instrument sinks, the more opportunity it has of meeting detached portions which, untouched, would have remained innocuous. This danger, therefore, is proportionate to the length of the tube employed.

3. *Passage of Food through the Tube into the Trachea.*—In considering this drawback, an important question presents itself. Is there not, in the occasional passage of food into the trachea, a prolific cause of broncho-pneumonia, corresponding, at least, with the ætiological position of tracheotomy in relation to that complication? Waxham, of Chicago, one of intubation's warmest advocates, who has probably had more experience than any man living in the performance of that operation, stated at a meeting of the Chicago Medical Society, held on February 7th last, that, "besides the difficulty of swallowing, food and fluids ran into the bronchial tubes through the cannula, and that it was true that many patients died from broncho-pneumonia from this source,"* presenting at the same time an ingenious attachment of his invention to overcome the difficulty. Again, to quote his words: "He (the physician) may tell the people to feed it bread and milk, or semi-solids, and, if he investigate the matter, he will find that they are giving it half a teaspoonful of milk with a little bread, *and the milk trickles into the trachea* and the bread is rejected. If they are told to make a custard, they make it so soft and fluid that *it will trickle into the trachea.*" † Imagine a custard and milk rolling down into the trachea! And still I have not the least doubt that Dr. Waxham was perfectly right.

In a list of seventeen observers, it is a rather obvious fact that those who report the greatest number of cases characterized by marked difficulty in swallowing, report at the same time the greatest number of deaths from broncho-pneumonia. This may be a mere coincidence, but I am inclined to believe that it is not.

Fletcher Ingals, in the proceedings of March 7th of the Chicago Medical Society, stated that, in the cases in which he had introduced the tube for other physicians, "those that recovered, he had insisted that they should drink absolutely nothing." In the last case he insisted upon this so strongly that "he cautioned the parents that if they gave the child a teaspoonful of water they would kill it."

That impediment to proper deglutition is an important defect of the operation is demonstrated by the fact that fifteen of the seventeen writers above alluded to mention it in connection with their cases in a more or less emphatic manner.

Dr. O'Dwyer believes this defect to depend principally upon the state of the epiglottis, the mobility of which may be very much crippled by inflammatory thickening. I doubt whether this is the case, as the proportion of cases in which the epiglottis is involved in the inflammatory process sufficiently to paralyze its functions is not to be compared with the number of cases in which deglutition becomes difficult. Again, difficulty in swallowing is mentioned as occurring only *after* the introduction of the tube in all the cases reported, a fact demonstrating that the difficulty is due to the presence of the tube.

The prevailing opinion respecting the cause of this objectionable feature is that it is due to the impediment offered by the head of the tube to the free action of the epiglottis, by preventing its close apposition to the upper portion of the larynx. That this is but a small part of the faulty mechanism is shown by the following words of Dr. O'Dwyer: "The heads of my first tubes were made very small, to permit them to sink well down in the larynx, so that the epiglottis could perform its function more perfectly. . . . Notwithstanding that I have quadrupled their size, I *can see no difference in the ability to swallow fluids.*" There must, therefore, be another cause. That cause I am inclined to believe to be the weight of the tube. Elevation of the larynx during the act of deglutition is as important a feature of the proper execution of that act as the contraction of the constrictors. The muscles presiding over this elevation are not strong; their duty being a fixed one, their power is proportionate to the weight that they are calculated to lift. There is, perhaps, a certain amount of latent force in them, to serve in case of necessity, but that latent force can be at its best only during health, and the general stiffness that pervades the entire throat during severe local inflammatory infiltration can but counteract it, to say the least. If we add weight to the burden, the exact power necessary will either be present or absent, according to the inherent strength of the muscles and to the degree of their involvement in the inflammatory process. It must not be forgotten that in swallowing the larynx ascends more toward the epiglottis than the epiglottis descends to the larynx. If, therefore, the ascent of the former is checked by only one sixteenth of an inch, there will be an aperture left quite sufficient to allow a considerable quantity of fluid to enter.

4. *Momentary Arrest of Respiration during the Introduction of the Tube.*—Dr. L. L. Palmer, of Toronto, in an interesting article on intubation,* relates a case in which the introduction of the tube was followed by an increase in the pulse-rate of from fifteen to twenty beats, which continued until death. He recommends a short first attempt, with special effort, to render it successful. He is inclined to consider momentary asphyxias as greatly aggravating causes, and is considering whether in his case these did not cause extension of the local manifestations.

Although seldom alluded to, this feature of the operation must certainly carry along with it a pernicious effect upon the already semi-asphyxiated patient. Needless to say that it is due to the presence of the obturator, which blocks up the cavity of the tube from the time the tip enters the larynx until it is well in place.

5. *Liability of the Tube to be Coughed Out.*—This occurs in almost every case, and is due, in my opinion, to the conformation of the tube, which exposes it to the action of the air-current during cough, and causes it to be influenced by it as if it were a foreign body.

The principal mechanical defect in this case is again the limited diameter of the interior of the tube, which is out of proportion to that of the column of air. The pressure is, therefore, exerted *around* the instrument with sudden violence, assisting the suddenly narrowed portion of the air-current which passes *through* the tube, in lifting it bodily.

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* "Jour. of the Am. Med. Assoc.," March 12, 1887, p. 291.

† "Cincinnati Lancet-Clinic," March 26, 1887.

* "Canadian Practitioner," January, 1887.

6. *Slipping of the Tube into the Trachea.*—Slipping of the tube into the trachea during efforts at withdrawal is probably due to narrowness of the head, the descent being also assisted by the weight of the instrument. Independently of these mechanical features, however, the accident principally depends upon the selection of an instrument too small for the cavity that it is to occupy.

Recapitulating, we have then: Obstruction of the tube by detached membrane, due to the limited diameter of its interior.

Crowding down of loose membrane during the introduction of the tube, due to its inordinate length.

Passage of food through the tube into the trachea, due principally to its weight.

Momentary arrest of respiration during the introduction of the tube, due to the presence of the obturator.

Liability of the tube to be coughed out, due principally to the limited diameter of the interior.

Slipping of the tube into the trachea, due to its weight and to the conformation of its head.

We have now considered the principal defects of intubation, and I have given you what to me seemed to be their origin. I may be right, I may be wrong in my conclusions. I give them to you for what they are worth—food for thought. Let me say, however, as an encouragement, that by eliminating from the statistics in my possession the cases of death that I thought might have been avoided, had the instruments reached the degree of perfection that they will some day reach, the proportion of recoveries, instead of 25 per cent., became 43 per cent. This is, of course, a mere estimate, imbued with a certain amount of guessing, but I feel confident that the time is not far distant when this record, at least, will stand to the credit of intubation. Then, even more than now, will O'Dwyer's patience and perseverance be appreciated. How many thousands of lives will it have saved!

In conclusion, I will show you a set of instruments that I have had constructed in which I have tried to incorporate the qualities that an intubation set should possess in accordance with the ideas set forth above. Their value will depend, of course, upon the correctness of my views. In devising them I based myself upon the principle that the natural conformation of the larynx should as much as possible be followed, in order to preserve for the patient, to the greatest degree possible, the natural physiological functions of the surrounding parts. They are more calculated to supply the larynx with a metallic coating to preserve its perviousness than with a tube, properly speaking. To construct the throat-piece, I took a plaster cast of a larynx, and this, in turn, served to sink a die, which was used to transfer its shape to thin sheets of metal (due attention being paid to strength). Each side being taken separately, two plates were obtained which, united on the sides, formed an accurate mold of the internal aspect of the laryngeal cavity from the ary-epiglottic folds down to below the vocal bands. You will notice, however, that the lower portion of the instrument extends on an average one inch below the bands. The two side-pieces are united immediately above the middle, and in doing so the edges are bent so as to prevent close apposition of the joints to the parts adjoining them. In this manner neither the anterior commissure nor the inter-arytenoid space is touched by the instrument. The two pieces work freely around the pins holding them together, the upper portions becoming approximated when the lower separate, and *vice versa.* When the latter is the case, the instrument assumes the shape of a sharp V. When it is introduced into the larynx it assumes the shape of a capital A, with a funnel at the top. In this position the separated lower branches are in the trachea, the narrow portion of the funnel is at the vocal cords, and the edge of the broad portion of the funnel is just below the ary-epiglottic folds, its shape being such as to avoid any interference with the epiglottis. The mold presented on each side, near the top, two rounded protuberances corresponding with the ventricles of the larynx. Reproduced in the instrument, these protuberances form a convenient supporting point, resting as they do on the vocal bands below and within the ventricles above, the edge of the ventricular band resting in turn in the recess formed by the protuberance and the lower portion of the funnel on each side. It is thus held securely, the vocal band preventing its descent and the ventricular band its ascent. The internal portions of the protuberances serve for the hooks of the forceps. The general appearance of the instrument is that of a bivalve speculum. Dr. O'Dwyer's first idea was to use such an instrument. After experimenting a few times with one, he abandoned it to resort to tubes. The defect was that the mucous membrane of the inter-arytenoid space and adjoining parts "pressed forward between the edges of the separated valves and the dyspnœa returned."* The mechanical error in this case was that the valves were united near the top, so that, when they were separated by the action of the spring, a gap occurred opposite the inter-arytenoid space and adjoining parts below, and also opposite the anterior commissure, thus enabling the swollen membrane to invaginate itself into the interior of the instrument. In the instrument now shown the point of union is nearly half an inch *below* the level of the vocal band, so that when the instrument is in position a complete tube is formed extending from the top of the inter-arytenoid space to almost half an inch below the vocal bands. Although not fitting tightly within the larynx, the adjustment is such that, like a well-fitting shoe, it can not produce irritation in any particular spot. Its movements are automatic, the vocal bands opening and closing the valves, according to the relative position they occupy with them. When they are introduced, closed below, and pushed downward, the moment the point of junction is reached, the valves open below and close above, forming the tube. When the instrument is withdrawn it remains closed above until the joint is reached, when it suddenly opens, the lower portions closing. This arrangement renders introduction and withdrawal exceedingly easy. This mechanical arrangement should obtain the following advantages:

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* Northrup, New York "Medical Record," Dec. 11, 1886.

1st. We have almost the same breathing space as in the normal larynx, thus preventing as much as possible obstruction by detached membrane.

2d. The comparative shortness of the instrument and the early separation of the lower portions of the valves reduce greatly the danger of crowding down loose pseudomembrane.

3d. The light weight of the instrument and the shape of the head avoid interference with the act of deglutition.

4th. Separation of the valves a short distance above their tips, when closed, enables the patient to breathe freely while the instrument is being introduced.

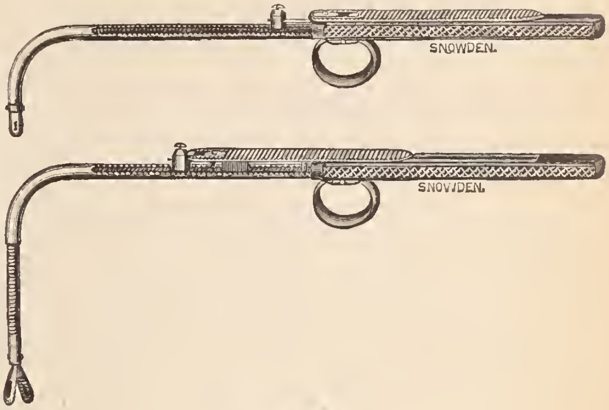
5th. The fact that the force of the air-current is exerted in the center of the instrument and has sufficient space to pass freely, renders ejection during cough almost impossible.

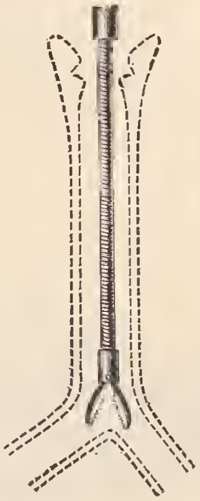
6th. The breadth of the head, the facility with which it can be grasped by the forceps, combined with the lightness of the instrument, make it impossible to force it into the trachea without fracturing the thyreoid cartilage.

As to the forceps, it only differs from ordinary instruments of that class in having a side-hook at each tip to penetrate the ventricular cavities of the speculum and hold the instrument fast. The tips can be extended so as to render the instrument applicable to all ages and depths of larynges. To engage the speculum in the grasp of the forceps, the tips of the latter are passed into the funnel-shaped cavity and then allowed to open. When the speculum is in the larynx this procedure, prior to extraction, is extremely simple. The forceps acting automatically, their tips have merely to be passed behind the epiglottis and depressed until an obstruction (the bottom of the funnel) prevents further progress. Allowing the forceps to open, they grasp the speculum firmly, when slight traction will suffice to withdraw it. This has been tried repeatedly upon the cadaver. The manipulation of introduction is that recommended by Dr. O'Dwyer for his instrument.

I wish also to show you an instrument devised for the purpose of withdrawing detached membrane from any part of the trachea, from the bifurcation up. It consists, as you can see, of a spiral tube, which, pushed out through the shaft of the body of the instrument, can be lengthened at will from the handle. A small blunt forceps is mounted on the end of the spiral tube, which forceps opens while on the descent and closes as soon as the spiral tube is drawn home. This instrument can be used with the speculum *in situ*, and is so constructed as to not interfere with respiration. For the extraction of foreign bodies from the trachea it will also, I think, render valuable services. I have already had occasion to use it, with gratifying results.

You will pardon me for introducing the laryngeal specula to you before having tried them upon the living subject, the crucial test—the only one, in fact, that can render them worthy of your attention. You will kindly remember that they are merely brought before you to illustrate the ideas set forth in my paper, and that eighteen months will probably elapse before we meet again, and therefore eighteen months before I have an opportunity of showing them to you. My future plan of procedure with them will be to try them in a number of cases, and when found satisfactory in my hands, I will place a number of sets at the disposal of as many general practitioners and request them to study the defects that they may present in *their* hands (naturally not so accustomed to the manipulation of laryngeal instruments as mine), and, these defects once corrected to their and my satisfaction, I shall again have the pleasure of bringing them before you, but in a more mature form.





THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.

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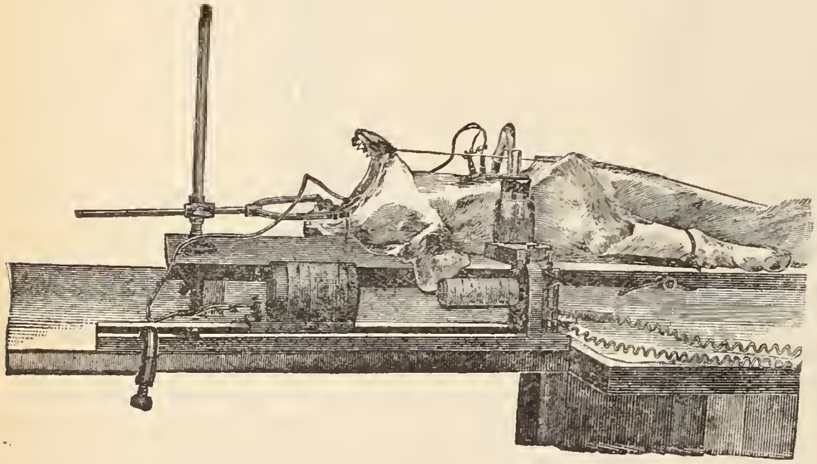
(*Continued from page 66.*)

"*Ether-Effect*" *Method.*—The accompanying figure will make our method clear.

The dog is here arranged in what we consider the most satisfactory manner to demonstrate the "ether-effect" in its different aspects. It will be seen that the animal is fixed on his back, with his upper jaw tied to a dog-holder, while the lower jaw is held open by a cord fastened to the lower end of the board. A perfect view of the glottis is now made easy by holding the tongue forward in one hand and lifting the tip of the epiglottis by a long forceps with the other. Tracheotomy has been performed, and the tracheal cannula is connected with a bottle containing ether by a short piece of rubber tubing, which can readily be adjusted to or removed from the cannula. A shielded electrode is upon each recurrent nerve; the electrodes are connected with each other, and in communication with an induction apparatus, which is supplied from one Grove cell in a battery closet. The secondary coil of the apparatus is on a slide, so that it can be moved to and fro at will, according to the intensity desired. It is our custom to begin an experiment with the secondary coil so far removed from the primary that no effect is manifest on the glottis by opening the short-circuit key connected with the secondary coil, and then to slowly approach the secondary coil toward the primary until some effect on the vocal bands is produced. When a dog is very slightly etherized, the first movement noticed of the vocal bands is of a vibratory character, which changes into a closure of the glottis as the intensity of the current is increased. Now, having determined on a given dog the feeblest stimulation that will provoke a closure of the glottis with the smallest amount of ether, let us attach the ether-bottle to the tracheal cannula, and watch the evolution of the "ether-effect" through the mouth. By irritating the recurrent nerves at intervals of a few moments (the intensity of the current, be it understood, being always the same), the following changes will be noticed as the animal consumes more and more ether: The constrictors soon show signs of failure to respond to stimulation, and, instead of a closure of the glottis, the mixed movement is seen, which in time gives way to complete dilatation when the dog is sufficiently saturated with ether. By now removing the ether at this point of complete dilatation, the reverse picture of the above phenomena can be traced as the animal emerges from profound ether narcosis. The dilatation will soon give way to the mixed movement; this mixed appearance will gradually become less and less until, finally, complete constriction supervenes, when we have returned to the starting-point of the experiment. The ether may now be again administered, and the experiment repeated. Mention has already been made of individual canine peculiarities, some of the animals being very susceptible to ether, while in others the mixed movement only can be demonstrated, no matter how much of the anæsthetic is given. In presenting detailed experiments, we shall select from our note-books the most typical cases, which may be taken as representative of the average dog. The following experiment shows the time it may take to complete the circle of the "ether-effect" when the intensity of the stimulation remains the same as just described.



December 22, 1886.—Smooth-haired mongrel bitch, ten to eleven months old. Arranged for observation as previously described. Intensity of stimulation = 5, which was the feeblest current possible to produce a decided effect upon the vocal bands.

TABLE I.

	Time, A. M.	Result.
Ether applied.	10.15	Contraction.
	10.16	Mixed movement beginning.
	10.17	Mixed movement more marked.
Ether removed.	10.18½	Complete dilatation.
	10.20	Mixed movement.
	10.22	Almost complete contraction.
	10.23	Complete contraction.

It will be noticed that in this particular dog eight minutes were sufficient to exhibit the "ether-effect" in all its stages.

All our animals, we need hardly say, were etherized while being prepared for experimentation, which generally occupied from a half to three quarters of an hour. During that time the dog was given merely enough ether to keep him quiet and free from pain. Some dogs pass very quickly and quietly under the influence of ether, and come out of it with surprising rapidity, while others are very bad etherizers.

We may add another experiment here, like the one just detailed, solely for the sake of comparison, on an older dog than the last and one not quite as susceptible, but the variations are within narrow limits, as has been the case in all similar observations.

December 19, 1886.—Rough-haired terrier bitch, about two years old. Intensity of stimulation = 6, which was the weakest we were able to use, as a feebler current caused merely a vibratory movement of the vocal bands.

TABLE II.

	Time, A. M.	Result.
Ether applied.	11.13	Contraction.
	11.15	Mixed movement.
Ether removed.	11.18	Complete dilatation.
	11.19	Dilatation.
	11.20	Dilatation.
	11.21	Dilatation accompanied by slight vibration.
	11.22	Dilatation less marked; tendency toward mixed movement.
	11.23	Mixed movement.
	11.25	Almost complete contraction; on increasing the intensity of the stimulation at this point very slightly, a complete and vigorous contraction took place.

Leaving the question of the phenomena consequent upon the same stimulus in different stages of etherization, we will pass to a consideration of the effect of weak and strong stimuli rapidly applied in succession to the recurrent nerves, according to the depth of the ether narcosis. For this purpose, let us start with a dog in the most profound state of etherization, at a point where stimulation with currents, from the weakest to the most powerful that it is reasonable to use, will fail to produce a closure of the glottis. When this condition is determined, remove the ether and proceed in the following manner until the experiment is completed: Place the secondary coil so far from the primary that there will be practically no current; then, leaving the short-circuit key open, move the secondary toward the primary coil at stated intervals, noting the different effects upon the glottis, according to the intensity of the stimulation, as the animal comes out of the ether. It will be found, under these circumstances, that dilatation or the mixed movement with *all* intensities soon gives way to dilatation or the mixed movement with weak stimuli only, and contraction with stronger; and that contraction is called forth by stimuli less and less strong as the dog becomes less and less etherized, until finally contraction only is produced by even the feeblest irritation. We submit the following table, showing in minutes the time it usually takes to demonstrate these phenomena.

November 28, 1886.—Well-bred collie bitch, six to seven months old. Arranged for observation as already described. Profoundly etherized. Ether removed at beginning of experiment, 10.39 A. M. (*a*). The intensity of the irritation necessary to produce the results indicated at the head of each column is shown by the numerals below.

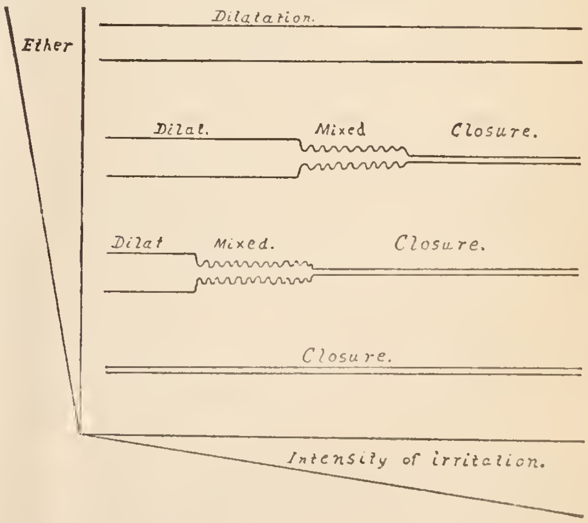
TABLE III.

Time, A. M.	Vibration.	Dilatation.	Mixed.	Closure.
a. 10.39.......	2	5	22	....
b. 10.40.......	2	....	9·5	....
c. 10.41.	2	...	4·8	....
d. 10.41½......	1·5	....	4·8	22
e. 10.42.......	1·5	....	4·8	9
f. 10.42½......	1·5	....	....	4·8
g. 10.43½......	1·5	....	....	3

An analysis of this table shows that at the beginning of the experiment (*a*), when the dog was thoroughly saturated with ether, vibrations of the vocal bands were called forth by the excessively weak stimulus of 2; as the secondary coil was moved toward the primary, complete dilatation was manifested at 5, which persisted until the comparatively powerful intensity of 22 was reached, when the mixed movement supervened. No closure of the glottis could be obtained in this stage of etherization, even by the strongest stimulation. One minute later (*b*), the secondary coil being again started at the farthermost point from the primary, vibrations were noticed at the same intensity as before, but dilatation was no longer obtainable, although the ether had been removed but one minute. The mixed movement, however, was seen to occur with a much feebler irritation (9·5). Still no closure. After another minute had elapsed (*c*) the mixed movement was elicited by a still feebler intensity (4·8); otherwise no change. At the next trial (*d*), half a minute later, a marked change was observed. The mixed movement remained the same, but vibration took place with a feebler stimulus (1·5), and now, for the first time, closure was effected at 22. Here it will be noticed that closure of the glottis was brought about by the same intensity (22), which two minutes and a half before (*a*) had given rise to the mixed movement, and when it was impossible to close the glottis even with the strongest stimulation. Half a minute later (*e*) closure was produced by a stimulus less than one half as powerful as in the previous trial (*d*). The other conditions remained the same. At the expiration of another thirty seconds, the dog being now pretty well out of his ether (*f*), the mixed movement was no longer manifest, and closure was easily effected by a very feeble irritation (4·8). One minute after this (*g*), the animal having so little ether left in him that he was beginning to struggle, a complete closure was called forth by an intensity of 3. At this point ether was again administered. The duration of the experiment was four minutes and a half from the time (*a*) when a closure was impossible with the strongest stimulus to (*g*) when closure took place with an excessively weak stimulus.

The foregoing method of watching the "ether-effect" is very conclusive. The experiment may be repeated on the same dog several times with almost mathematical precision, and it has been a source of surprise to us that there should be so little variation in the transitional stages of the phenomena, even in the same dog; but it is quite natural that there should be differences in different dogs. The differences, however, are only in the *length of time* necessary to bring out the phenomena with ether, not in the character of the phenomena themselves. We have devoted eighteen separate dogs to the study of this particular question of the effects of intensity of varying strengths, according to the amount of ether in the animal, and the results on a susceptible dog are identical—namely, dilatation of the glottis is obtained with *all* intensities when the dog is profoundly etherized; but as there is less and less ether in the animal, dilatation is obtained *pari passu* by weaker and weaker stimuli and closure by stronger, until the normal closure is effected by *all* intensities when the dog is very slightly under the influence of the drug.

The "ether-effect" may be represented diagrammatically as follows:



The converging lines on the left represent the amount of ether, which diminishes from above downward. The diverging lines at the bottom of the diagram, as read from left to right, indicate the increase in the intensity of the irritation. Starting now at the bottom of the diagram with a very small amount of ether, the two parallel lines close together indicate a closure of the glottis with all intensities. Going a trifle higher, we find with a larger amount of ether dilatation takes place with weak stimuli, which changes into the mixed movement as the intensity of irritation is increased and finally closure supervenes. The same general effect noted directly above is observed with a larger amount of ether, only the dilatation and the mixed movement do not give way so early to complete closure as the intensity is increased. Finally, with a full amount of ether, dilatation is elicited with all intensities.

Shortly after our first observations were published (autumn of 1885 and spring of 1886) Mr. J. W. Perkins, interne at the Children's Hospital, Boston, and Dr. F. W. Ellis undertook a series of investigations on the sciatic nerve of the frog in order to decide whether similar peripheral "ether-effects" could be elicited from this nerve, which, like the recurrent laryngeal, supplies groups of antagonistic muscles. The results of these observers have been embodied in a paper by Professor Bowditch, entitled "The Action of Sulphuric Ether on the Peripheral Nervous System," which may be found in the "American Journal of the Medical Sciences" for April, 1887. We must refer those interested in this question to the original paper for the details of the results of the experiments, for we shall quote here only such portions as are of importance in connection with our present study of the recurrent nerves, and which led to fresh experiments on our part. Perkins and Ellis found that stimulation of the sciatic nerve of the frog, treated by various methods with ether, produced opposite effects from those without ether. It was determined also that similar to the experiments on the recurrent nerve, the "ether-effect" was at the periphery, and from a study of the question, whether it was upon the nerve-trunks, the nerve terminations, or the muscular fibers, Professor Bowditch concludes that, as far as the sciatic nerve of the frog is concerned, the "ether-effect" is a phenomenon dependent upon the action of the drug upon the nerve-trunk, and that it exercises an elective and paralyzing action upon certain of the nerve-fibers. This explanation, however, of the "ether-effect" being a partial paralysis of the nerve-fibers, although justified from the studies on the sciatic nerve of the frog, is not applicable to the action of the drug on the recurrent nerves of the dog. Perkins and Ellis observed the "ether-effect" in the frog by applying the drug locally to the sciatic nerve. We determined, therefore, to pursue the same line of research in the dog. For this purpose chloralized dogs were used. Now, if the cause of the "ether-effect" resided in the nerve-fibers themselves, we might expect to obtain a dilatation of the glottis by subjecting the trunk of the recurrent to the local action of the drug. This procedure was accomplished by attaching a gutter to the shielded electrode, into which a solution of ether could be dropped directly on to the nerve-trunk, the effects on the glottis being watched through the mouth while stimulations were applied to the nerve below the point where the ether was working its local action. We have tested this local effect of ether on seven dogs without being able in a single experiment to obtain a dilatation. A six-per-cent. solution of ether was generally used. This was found to gradually paralyze the nerve in from two to six minutes, according to the dog. It was observed also that when a nerve had become paralyzed in this manner and was afterward washed with a half-per-cent. solution of salt, the vocal band would in a few minutes regain its mobility. The shortest time that it took the vocal band to recover its motion was seven minutes and the longest twenty-two minutes. The only result of the stimulations of the recurrent nerve in chloralized dogs which had been subjected to the local action of ether was that, as the nerve became more and more paralyzed, it required a stronger and stronger stimulus to cause a contraction of the corresponding vocal band. Abduction was never obtained. We will describe one experiment in detail to show the different steps in the operations.

Table IV.

Time, A.M.	Intensity of irritation.	Results.	Remarks.
10.43....	2½	Contraction.	6% solution of ether applied locally to right recurrent nerve.
10.44....	2½	“	
10.45½...	2½	Contraction less vigorous; right vocal band paralyzed.	
10.46....	2½	Contraction feeble.	Necessary to increase intensity of stimulation.
10.47....	5½–7	Vibration, contraction.	
10.48....	5½–8	“ “	
10.49....	7½–10	“ “	
10.50....	9½–13	“ “	
10.51....	10–15	“ “	
10.52....	10–15	“ “	More chloral given.
10.58....	12–18	“ “	More ether on nerve.
11.01½...	12–20	“ “	
11.03....	13–20	“ “	
11.05....	15–25	“ “	Contractions very feeble indeed; electrode changed to left recurrent; right recurrent washed with salt solution.
11·12....	....		Right vocal band has recovered its respiratory movements.
11.12½...	0·7–1	Vibration, contraction.	Stimulation of left recurrent; more chloral given.
11.18....	....		Ether locally on left recurrent.
11.18½...	0·7–1	Vibration, contraction.	
11.19½...	0·7–1	“ “	
11.22....	7½–9	Vibration, contraction; left vocal band paralyzed.	
11.23....	7½–9	Vibration, contraction.	
11.24½...	7½–10	“ “	More ether on nerve.
11.31....	9–12	“ “	
11.34....	9–13	“ “	More ether on nerve.
11.39....	10–15	“ “	
11.40....	10–15	“ “	Contractions very feeble.

January 27, 1887.—Collie dog, six months old. Ether was first administered. It was ascertained that the dog was most susceptible to the drug, and complete dilatation was obtained. The ether was now removed. The femoral vein was exposed and a cannula tied into it. Through this a twenty-five per cent. solution of chloral was slowly injected until the animal was thoroughly under its influence. The feeblest stimulus was then determined, which would produce a contraction of the glottis. This proved to be $I = 2\frac{1}{2}$ for the right side and $I = 1$ for the left; anything weaker caused merely a vibratory movement of the vocal bands. The results were as shown in Table IV.

It will be seen by this table that there was a slight difference in the behavior of the two nerves. Although the excessively weak stimulus of $2\frac{1}{2}$ (which was so feeble that it could not be perceived by placing the wires on the end of one's tongue) called forth a contraction of the right vocal band, the left responded to a still weaker current. We have not infrequently noticed a difference in this respect between the two nerves, and presume the condition of the electrodes or some slight accident in the preparation of the nerves, or the completeness with which they were freed from the connective tissue surrounding them, may account for it. But the general results were identical. Each nerve became paralyzed in from two and a half to four minutes, and, as the paralysis was more complete, it needed a more powerful stimulus to produce contraction. As before mentioned, not a trace of dilatation could be obtained. In order to show how different dogs may be affected as regards the details, though in the main the results agree perfectly, we will add here another experiment:

January 20, 1887.—Rough-haired mongrel dog, about nine months of age. Not very susceptible to ether, as the mixed movement only could be obtained. Dog chloralized.

Table V.

Time, A.M.	Intensity of irritation.	Results.	Remarks.
11.07....	2–3	Vibration, contraction.	6% solution locally on right nerve.
11.09½...	2–3	" "	
11.13....	150	Right nerve paralyzed, and only responds to this very powerful irritation.	
11.16....	....		Right nerve washed with salt solution.
11.23....	....		Electrode changed to left recurrent.
11.27....	3	Contraction.	6% ether locally on left recurrent.
11.28½...	3	"	
11.29½...	3	C'ntract'ns less mark'd; vocal band becoming paralyzed.	
11.30½...	....		Left nerve paralyzed.
11.31....	80	Slight contraction.	
11.33....	80–150	Vibration, slight contraction.	
11.35....	....		Respiratory movements of right vocal band just reappeared.

In this dog the right vocal band became paralyzed in six minutes, and did not respond to any stimulus short of the very powerful one of 150. It regained its mobility in twenty-two minutes, and after this it responded as before (not included in the table) to weak stimuli. It will be understood that the differences are only in time and in the strength of the irritation necessary to produce the salient points in these experiments. The results were very constant and show, we think, that the cause of the "ether-effect" in dogs need not be sought in the nerve-trunks.

We have also tested the local effect of ether on the nerve-trunk when the animal was under the constitutional influence of the drug. The only noticeable effect under these circumstances was that as the nerve became paralyzed it required a stronger and stronger stimulus to produce the dilatation.

We endeavored to determine the relative strength and endurance of the dilating and closing nerve-fibers by a series of "exhaustion" experiments conducted by applying a continuous stimulation to the recurrent trunks of dogs when the animals were under the influence of different drugs with the view of converting, if possible, the dilatation of ether into a closure by exhaustion of the abductor fibers, or changing the contraction of chloral into dilatation by exhaustion of the closing fibers. Our researches in this direction showed that it was not possible to produce a change of this sort as a result of fatigue. In no instance was dilatation changed into closure or closure into dilatation by long-continued irritation of the nerves. Continuous stimulation was kept up in different experiments for from ten to thirty minutes without altering the first effect. When the animal was kept in the same stage of etherization, dilatation lasted as long as the stimulation was maintained, while in chloralized dogs the normal closure showed no signs of weakening. In these observations the animals were tracheotomized and the weakest intensity used that was capable of causing a well-marked effect upon the glottis.

(*To be concluded.*)

Correspondence.

LETTER FROM LONDON.

Benign Intra-laryngeal Growths.—Excision of a Portion of a Rib in Empyema.—The General Medical Council at fault.—Mr. Victor Horsley and Tumors of the Spinal Cord.—Hospital Sunday.

London, *June 20, 1887.*

A somewhat lengthy paper war has been waged between the laryngologists during the last few weeks as to whether there is a special tendency on the part of benign growths in the larynx to take on a malignant type in consequence of intra-laryngeal operations. This peculiarly untenable thesis has long been held by Mr. Lennox Browne, and, as he did not seem inclined to give it up, Dr. Felix Semon set to work to demolish it for him, and has certainly succeeded in doing so pretty effectually, as he has clearly shown that there are at most but 6 cases of such perversions on record out of a total of probably 3,000 operations. The discussion arose out of the illness of the Crown Prince of Germany, who is suffering from an intra-laryngeal growth, which has now been finally declared, on the authority of Professor Virchow, to be perfectly benign. The Prince is under the care of Dr. Morell Mackenzie, and is at present in this country, having come over for the Jubilee celebrations.

Another correspondence, carried on with less vehemence and in perhaps a more friendly spirit, has been going on between Dr. Goodhart and Mr. Godlee on the subject of the operative treatment of empyema. The former had at last felt bound to raise his voice in protest against the excision of a portion of rib in every case of empyema as wholly unnecessary, and Mr. Godlee, as one of the chief champions of that operation, felt equally bound to answer him. It appears to me that Dr. Goodhart has much the best of the argument, his contention being that the patients generally do very well without the operation, and that, being unnecessary, it is therefore inexpedient. I can not but think that those who have been in such a hurry to perform and extol the operation can have had but little experience of empyema in children, for the vast majority of cases will certainly do perfectly well without any such severe measure.

The General Medical Council has just received a rebuff which it is to be hoped will do it good. It has always been the practice of the Council, on being informed by any of the licensing bodies that the name of a certain person had been removed from its roll, to remove that qualification from the register, and, when the last or only qualification was so removed, to proceed further and strike the person's name off also. About two years ago a dentist, whose only qualification had been granted by the Royal College of Surgeons in Ireland, fell foul of that august body, and was struck off their lists because he would advertise in the newspapers. The Council followed suit, and ordered his name to be removed from the register. The aggrieved dentist determined to try his luck at law, and has been so far successful that an order has been issued for the restoration of his name to the register. The section of the act which gives the Council power to strike a man's name off stipulates that they shall do so if they see fit—*i. e.*, they have a discretion in the matter; and it is further expressly stipulated that they shall not strike a man off for holding any particular theories, so that a man might have all his diplomas taken away by the various licensing bodies for becoming a homœopath or a disciple of Matteism, yet he could not for that reason only be deprived of his right to practice. It appears to me perfectly monstrous that the Council should attempt to uphold the doctrine that a dentist may not advertise; I do not believe they could strike a medical practitioner off the register for so doing, much less a dentist.

Mr. Victor Horsley, not content with his unprecedented successes in intra-cranial surgery, seems to have turned his hand to the still more difficult task of bringing the spinal cord and its diseases under the influence of the surgeon's knife. A few days ago he removed a tumor from the dorsal region of the spinal cord. The patient was under the care of Dr. Percy Kidd, who had called in Dr. Gowers, and between them they arrived at the opinion that a tumor on or in the immediate neighborhood of the sixth dorsal nerve was the cause of the symptoms. Mr. Horsley, by a carefully planned operation, cut down upon the cord in this region, and, after opening the dura mater, removed a tumor measuring about an inch and a quarter in length by half an inch across, which apparently grew from the ligamentum arcuatum in the situation indicated. The chief symptoms had been violent spasms, pain, and complete paraplegia. The operation, though prolonged, was followed by no untoward symptom, and at the time the case was reported the patient had already shown some signs of alleviation.

Yesterday was Hospital Sunday, and it is to be hoped that there may be a considerable increase in the amount raised over what has been collected in former years. Last year, after the most strenuous efforts, in which the late Dr. Wakley took a very prominent part, the total reached £40,000—a sum which exceeded any previous collection, but yet falls very far short of what those who have most to do with the hospitals declare to be absolutely necessary. This year London is unusually full owing to the Jubilee rejoicings, and the majority of the visitors, it may fairly be assumed, could well afford to give a trifle.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JULY 23, 1887.

INTUBATION OF THE LARYNX.

We have before taken occasion to commend the judicious attitude taken by Dr. O'Dwyer with regard to the procedure of intubation of the larynx—a procedure of which, in spite of M. Bouchut's prior attempts, he is properly regarded as the author. But on that score not all that he is justly entitled to has yet been said of Dr. O'Dwyer. It would have been quite in accord with numerous precedents if he had adopted the course of imputing the failures and accidents reported from time to time as due, not to any shortcomings in the operation itself as he gave it to the world, but to unskillfulness on the part of the reporters; and to have insisted on every detail of the procedure corresponding with his own practice under like circumstances. In our opinion, Dr. O'Dwyer deserves the greatest credit for not having pursued such a course. He has never pretended that the device sprang from him in a perfected state, like Minerva from the head of Jove; on the contrary, he has steadily shown the most praiseworthy readiness to take into candid consideration the suggestions that the experience of others has led them to offer. Moreover, although the operation has been widely and appreciatively received by the profession, it has not been noticeably retarded in its progress by being over-advocated.

Such being the case, it may confidently be taken for granted that both Dr. O'Dwyer and every promoter of intubation will gladly pay all due attention to any further improvements in the operation, and any additional safeguards in the after-treatment, that may be proposed. It seems to us that two noteworthy articles have recently appeared in which suggestions to that end are contained. One of these articles, by Dr. Ingals, of Chicago, we published in the Journal for July 2d and July 9th, and the other, by Dr. Sajous, of Philadelphia, will be found in this issue. Prominent among the feelings likely to be called forth by these papers, both of which were read at the recent annual meeting of the American Laryngological Association, is that of gratification that an important therapeutical measure proposed by a general practitioner has engaged the serious and appreciative attention of specialists in laryngology. The salient point made by Dr. Ingals, it will be remembered, was with regard to the great danger of giving liquid food and drink by the mouth when the tube was present in the larynx. Whether or not we assume that the head of the tube interferes with the proper closure of the glottis during deglutition, it must be admitted, we think, that Dr. Ingals properly laid stress upon a most important matter; and, as we have now so many resources available in the way of satisfying hunger and thirst without calling the act of swallowing into play, it is to be hoped that all who resort to intubation will see to it that his injunction is scrupulously carried out. In the light of Dr. Ingals's earnest warning, to allow mush to run into the trachea will be nothing short of criminal. It is possible that some further modification of the tube may do away with the danger, but until that is accomplished the course laid down by Dr. Ingals appears imperative.

Of no smaller importance are Dr. Sajous's painstaking attempts to point out some of the drawbacks to the operation as at present performed and to aid in overcoming them. It may not be that the particular mechanical devices that he has been led to adopt will turn out to be altogether the best adapted to their several purposes; indeed, he himself distinctly states that that matter will have to be decided by actual experience with them on the part of others, and the frankness with which he recognizes that fact quite warrants him in saying that, in putting forth his suggestions, he feels that he is "morally supported by Dr. O'Dwyer."

MINOR PARAGRAPHS.

A NEGLECTED SCIENCE.

It seems to us a reproach to our American medical colleges that so few of them make even the pretense of teaching botany. A fair knowledge of the natural sciences ought, of course, to have been acquired during that portion of a young man's education that precedes his matriculation in medicine, but the fact is notorious that few of the institutions in which he can pursue that part of his study make any considerable approach to adequate teaching in this branch. The medical school of the period we consider quite as much bound to supplement its pupils' defective opportunities in botany as in chemistry—a branch that no medical faculty could afford to ignore. Even in countries where this particular deficiency in the student's preliminary education is by no means so decided, if indeed it exists at all, botany is taught systematically and practically. In France, for example, there are frequent *herborisations*, conducted by men of world-wide fame and duly announced in the medical journals.

THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

We infer from the "Announcement" of this young institution, for the sessions of 1887 to '88, that it is creditably fulfilling the praiseworthy purpose of making Pittsburgh's undoubted clinical advantages fully available to students. We are glad to notice, too, that it has resolutely taken the stand—one requiring considerable courage even when taken by a well-established college—of insisting on an entrance examination in the cases of applicants who can not show documentary evidence of having pursued a course of study adequate to fit them for entering upon a professional course; also that candidates for graduation are examined in all the branches taught in the college. Finally, the faculty are to be commended for making botany, hygiene, and legal medicine the subjects of lectures by regular professors, hygiene and legal medicine constituting each a chair of itself.

A NEW COLOR-TEST FOR MORPHINE.

The "British Medical Journal" describes a new method of testing for morphine, capable of detecting the presence of so small a quantity as one two-hundredth of a grain. A few drops of strong sulphuric acid are added to the solution, together with about the same amount of a solution of sodium sulphate (strength not stated). The mixture is heated in a porcelain capsule, and, as soon as it begins to give off sulphuric vapor, it is suddenly cooled, when, if morphine is present, it will assume an intense violet color. If it is further heated, it turns brown, and, after it has cooled, the addition of a few drops of water produces a vivid red color, which changes to a pale green on the addition of more water. If, now, an equal bulk of chloroform is added, and the mixture well shaken, the chloroform becomes of a bright blue color.

THE WORKMEN ON THE PANAMA CANAL.

The "British Medical Journal," remarking upon the mortality among the laborers engaged in this undertaking, which it somewhat hopefully speaks of as "gradually approaching completion," cites a recent official publication to the effect that the average annual death-rate does not exceed ten per cent., and is not, therefore, so high as has been stated. "But even this figure," it properly adds, "is fearfully high." It seems that the promoters of the scheme have only lately come to recognize the expensiveness of this great mortality, and to take steps looking to its reduction.

HISTORY REPEATING ITSELF.

A contributor to the "Wiener medicinische Presse" recommends xylol as a remedy in small-pox. He speaks of it as a hydrocarbon long known to chemists, but of recent introduction into therapeutics. If the author's article is correctly summarized in the "Gazette hebdomadaire de médecine et de chirurgie" (we have not seen the original), he seems to be unaware of the fact that xylol was extensively used in small-pox some fifteen years ago, especially in Germany.

THE INCONCLUSIVENESS OF THERAPEUTICAL OBSERVATIONS.

The tendency of independent observations and experiments in therapeutics to lead to diverse conclusions was notably illustrated at a recent European congress, a report of the proceedings of which is in course of publication in the "Gazette hebdomadaire de médecine et de chirurgie." The question under discussion related to the antiseptic property of iodoform. One of the speakers had concluded that neither iodoform nor iodol, whether in powder or in solution, exerted any action on the development or the vitality of micro-organisms; but statements directly contrary to this were made by three well-known observers. The real point brought out was that it was not sufficient to draw therapeutical deductions from the action of a drug outside the body, as in cultivations.

THE "KLINISCHE ZEIT- UND STREITFRAGEN."

This is the title of a new serial publication edited by Professor Johann Schnitzler, of Vienna. In a general way, it resembles Volkmann's well-known "Sammlung klinischer Vorträge," but with a specified limitation of its scope to questions of pronounced interest at the present time. The parts thus far published include "The Present Status of Bacteriology and its Relations to Practical Medicine," by Professor Weichselbaum; "Hypnotism, with Special Reference to its Clinical and Forensic Significance," by Professor Obersteiner; and "Cardiac Dyspnœa and Cardiac Asthma," by Professor von Basch. Others are announced as follows: "On Bronchial Asthma," by Professor Schnitzler; "On the Neuroses of the Stomach," by Professor Glax; "On Atony of the Stomach," by Dr. von Pfungen; "The Present State of the Therapeutics of Syphilis," by

Dr. von Zeissl; and "The Present State of the Therapeutics of Skin Diseases," by Dr. Grünfeld. The series will undoubtedly constitute an important addition to medical literature.

THE PREVENTION OF SEASICKNESS.

A contributor to "Nouveaux remèdes," Dr. Ridreau, gives an elaborate description of a suspension apparatus devised by him for maintaining the equilibrium of the body at sea. The failure of the suspended saloon he attributes to the fact that its size and weight are such as to interfere with the due carrying out of the principle, but he thinks that his device, adapted at most to the suspension of a single state-room, will prove efficient. It is not stated that the contrivance has been tested practically, and it is to be presumed that owners of steamships will hardly be found willing to sacrifice the space that would be taken up by a number of independent swinging cabins.

THE "MONATSHEFTE FÜR PRAKTISCHE DERMATOLOGIE."

During the few years that this periodical has been published, it has constituted a pronounced feature in contemporary dermatological literature. Doubtless this is largely to be attributed to its having been edited, and in great measure written, by so energetic and progressive a man as Dr. Unna, of Hamburg. A noticeable feature of the fifth volume, for 1886, is the copious index with which it closes. The index proper covers thirty-nine pages, the list of authors of original communications and of articles epitomized from other publications nineteen pages, and an analytical index seventeen pages.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 19, 1887:

DISEASES.	Week ending July 12.		Week ending July 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	12	3	11	7
Scarlet fever	39	3	43	9
Cerebro-spinal meningitis	5	4	4	4
Measles	24	7	33	8
Diphtheria	100	33	106	45
Small-pox	3	2	9	1

The Health of New York City.—During the four weeks ending Tuesday, July 19th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Fourth Division of the Health Department: Typhoid fever, 40 cases and 19 deaths; scarlet fever, 167 cases and 33 deaths; cerebro-spinal meningitis, 14 cases and 12 deaths; measles, 106 cases and 23 deaths; diphtheria, 437 cases and 179 deaths; small-pox, 17 cases and 4 deaths.

The University of Vermont.—The thirty-fourth annual commencement of the medical department was held on Monday of this week, and the degree of doctor of medicine was conferred on fifty-three candidates.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 10, 1887, to July 16, 1887:*

Changes.

Hegar, A., Lieutenant-Colonel and Surgeon. Ordered to Fort Columbus, New York Harbor.

Janeway, J. H., Major and Surgeon. Ordered to Benicia Barracks as Post Surgeon, also as Attending Surgeon at Benicia Arsenal, California.

Birmingham, H. P., Captain and Assistant Surgeon. Ordered to Fort Myer, Virginia.

Woodruff, C. E., First Lieutenant and Assistant Surgeon. Ordered to Fort Mackinaw, Michigan.

Winne, C. K., Captain and Assistant Surgeon. Ordered to Fort Wadsworth, New York Harbor.

Havard, Vallery, Captain and Assistant Surgeon. Ordered to Fort Abraham Lincoln, Dakota Territory.

Maus, L. M., Captain and Assistant Surgeon. Ordered to Fort Schuyler, New York Harbor.

Girard, J. B., Captain and Assistant Surgeon. Ordered to Fort Lowell, Arizona.

Poindexter, J. D., First Lieutenant and Assistant Surgeon. Ordered to Camp Poplar River, Montana Territory.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Ordered to Fort Gibson, Indian Territory.

Byrne, C. B., Captain and Assistant Surgeon. Ordered to Washington Barracks, District of Columbia.

Wilcox, T. E., Captain and Assistant Surgeon. Ordered to Fort Niobrara, Nebraska.

Lippincott, H., Major and Surgeon. Ordered to Fort Union, New Mexico.

Cleary, P. J. A., Major and Surgeon. Ordered to Fort D. A. Russell, Wyoming.

Caldwell, D. G., Major and Surgeon. Ordered to Fort Assiniboine, Montana Territory.

Torney, G. H., Captain and Assistant Surgeon. Ordered to Fort Robinson, Nebraska.

Reed, Walter, Captain and Assistant Surgeon. Ordered to Mount Vernon Barracks, Alabama.

Patzki, J. H., Captain and Assistant Surgeon. Ordered to Fort Huachuca, Arizona Territory.

Ebert, R. G., Captain and Assistant Surgeon. Ordered to Fort Custer, Montana Territory.

Pilcher, J. E., First Lieutenant and Assistant Surgeon. Ordered to Fort Monroe, Virginia.

Gardiner, J. de B. W., Captain and Assistant Surgeon. Ordered to Fort Washakie, Wyoming Territory.

Chapin, A. R., First Lieutenant and Assistant Surgeon. Ordered to Newport Barracks, Kentucky.

Forwood, W. H., Major and Surgeon. Ordered to Fort Snelling, Minnesota.

Perley, H. O., Captain and Assistant Surgeon. Ordered to Fort Wayne, Michigan.

S. O. 156, A. G. O., July 8, 1887.

Matthews, W., Captain and Assistant Surgeon. Assigned as member of Army Retiring Board at Washington, D. C., and to relieve Captain J. O. Skinner, Assistant Surgeon. S. O. 159, Par. 2, A. G. O., July 12, 1887.

Maus, S. M., and Perley, H. O., Captains and Assistant Surgeons. Ordered to accompany the 11th Infantry in changing station from Department of Dakota to Department of the East. S. O. 158, A. G. O., July 11, 1887.

Gardner, E. F., Captain and Assistant Surgeon. Ordered to accompany the 12th Infantry from Madison Barracks to Duluth, and to return with the 11th Infantry. S. O. 143, Division of the Atlantic, July 13, 1887.

Ebert, R. G., Captain and Assistant Surgeon, will, in changing station from Fort Hamilton, New York Harbor, to Fort Custer, Montana, accompany the 12th Infantry from Department of the East to Department of Dakota. S. O. 159, A. G. O., July 12, 1887.

Walker, F. V., First Lieutenant and Assistant Surgeon. Granted leave of absence for four months. S. O. 160, A. G. O., July 13, 1887.

Cahill, Julian M., First Lieutenant and Assistant Surgeon. Ordered for duty as medical officer at Department Rifle Camp, near Bellevue, Nebraska, August 1st next. S. O. 66, Department of the Platte, July 8, 1887.

A board of medical officers, to consist of Billings, J. S., Major and Surgeon; Matthews, W., Captain and Assistant Surgeon; Ainsworth, F. C., Captain and Assistant Surgeon, is constituted to meet in this city for the examination of a candidate for admission to the Medical Corps of the Army. S. O. 157, A. G. O., July 9, 1887.

Society Meetings for the Coming Week:

Tuesday, *July 26th:* Medical Society of the County of Putnam (annual), N. Y.

Wednesday, *July 27th:* Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., Medical Society (Pittsfield); Middlesex, Mass., North District Medical Society (Lowell); Gloucester County, N. J., Medical Society (quarterly).

Thursday, *July 28th:* Cumberland, Me., County Medical Society (Portland).

Obituaries.

Joseph Chrisman Hutchison, M. D., LL. D., of Brooklyn, died on Sunday, the 17th inst., in the sixty-first year of his age. For some months he had been known to be affected with Bright's disease, and for a number of weeks preceding his death it was felt that that event could not be long delayed. Dr. Hutchison was born in Missouri, his father being a native of Armagh, Ireland, and his mother a Virginia lady. He pursued his academic course in the University of Missouri, which institution subsequently conferred upon him the degree of LL. D. His medical education was obtained partly at the Jefferson Medical College, of Philadelphia, and partly at the Medical Department of the University of Pennsylvania, from which latter he received his diploma, in 1848. He practiced in Missouri for a short time, but in 1853 he came to Brooklyn, and has since lived and practiced his profession there.

The deceased was a man of weight in the profession and in the community. With a preference for surgery, in which he achieved distinction, he nevertheless remained a general practitioner. He was a member of many medical organizations, and at various times he held offices in those bodies that were indicative of the high esteem in which he was held by his professional brethren. He was largely instrumental in building up the Long Island College Hospital, and in other ways he contributed materially to the honorable position occupied by the Brooklyn profession. Dr. Hutchison was not a voluminous writer, but he is known as the author of a number of notable essays. He was a most estimable, exemplary, and amiable gentleman, and one of the Brooklyn newspapers truly says of him: "Whether in afflictions, joys, or duties, the life of him who has gone was lived in the love of God and in the service of man."

OBITUARY NOTES.

David Davidson, M. D., of Philadelphia, died on Thursday, the 14th inst. The deceased was the son of Dr. J. Davidson, was a native of Philadelphia, and was graduated from the Medical Department of the University of Pennsylvania in 1871. At the time of his death, which is said to have been due to Bright's disease, he was one of the consulting physicians to the Jewish Hospital, and was a member of the Philadelphia County Medical Society.

Letters to the Editor.

A CASE OF POISONING WITH PARIS GREEN.

June 20, 1887.

To the Editor of the New York Medical Journal:

Sir: My little boy, four years old, while at a neighbor's, secured some Paris green, and, in his play, "dosed it out," and took it in water. He was brought home and the fact made known to my wife. As I was away on professional business at the time, my wife called in another physician. The child was then complaining some, but the doctor thought he had not taken much of the poison, and would be over with it in a few minutes, so he left without prescribing for him. I returned in an hour, and found my child very sick; he had been vomiting, but was now getting stupid, so much so that I feared that apomorphine would not produce emesis. However, I injected an eighth of a grain, and the stomach was soon thoroughly evacuated, the apomorphine acting promptly and emesis not lasting more than twenty minutes. In a short time I noticed that he was becoming delirious. This lasted about an hour, and was followed by a state of collapse, the lowest I have ever seen. Breathing was seemingly entirely suspended, the pulse could not be felt, and it required the closest attention to recognize the heart's action. The temperature in the axilla fell to 95°, and the extremities were cold. At this time, though his life was despaired of, I ordered him wrapped in hot, dry cloths. This was promptly attended to by a lady whose skill and kindness will ever be remembered, and in half an hour the temperature rose to 97°, and the child began to rally. This was at 8 p. m.; the poisoning had occurred at 3 p. m. By midnight he had rallied enough to be considered out of immediate danger, and afterward made a complete recovery. After emesis had been produced I administered carbonate of iron and magnesium as an antidote, and, when collapse set in, I gave him about half a drachm of brandy, but he could not swallow well; I also sponged the body with brandy.

Now, since apomorphine as an emetic does not greatly depress the nervous system, and as the vomiting was not prolonged, I should like to hear from some of my brethren in the profession as to the probable cause of this extreme collapse, also of the lowering of the temperature. Were they due to arsenic or to some peculiarity of the compound, Paris green?

Very respectfully,

Charles W. Phillips, M. D.

⁂ Our correspondent is respectfully requested to inform us of his address.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Ninth Annual Congress.

Intubation of the Larynx.—Papers on this subject were read by Dr. E. Fletcher Ingals, of Chicago (see pages 11 and 42), and Dr. F. E. Sajous, of Philadelphia (see page 95).

Dr. F. H. **Hooper**, of Boston, said that he had had no experience with the operation, but had watched some of the cases at the Boston City Hospital, notes of which, furnished him by the house-officer, Mr. W. H. Prescott, showed that there had been ten intubations performed in the institution, with two recoveries. One attempt to introduce the tube caused spasm of the glottis, and tracheotomy was performed. In another case the tube could not be introduced, and tracheotomy was performed. In every case in which intubation was performed, the relief from dyspnœa was immediate and as complete as after tracheotomy. Three tubes had been coughed up and swallowed—two with the silk still attached, and one after it had been removed. Very little discharge had been set up by the tube, and there had been no trouble with regard to feeding. One patient nursed without difficulty with the tube in the larynx. There had been no trouble in extracting the tube. In one case the tube, after remaining in the larynx sixty hours, became plugged with membrane, and had to be removed, but was inserted again. In another case the tube became filled with membrane at its first insertion, and was coughed up; that, too, was inserted again. Another was stopped up with thick mucus, and had to be removed, to be inserted again. Two of the cases had seemed hopeless at the time of the operation, which was done simply to prevent strangulation. One patient, weakened by previous disease, died of exhaustion; one died of measles and pneumonia, three of septicæmia, two of septicæmia and complications, and one of heart failure. The diet employed was of milk, beef-tea, chicken-broth, and custard. A light steam was used in the treatment; poultices were applied to the chest and neck; a dropperful of a 1-to-15,000 solution of corrosive sublimate was instilled into the nose three times a day when there was any nasal discharge; the throat was sprayed with Dobell's solution; small doses of corrosive sublimate were given, with pepsin in one case; two drops of tincture of digitalis were given morning and evening when the urine was scanty; pepsin was used when the stomach was out of order; and a teaspoonful of brandy was given every three hours.

Dr. D. B. **Delavan**, of New York, said that that part of Dr. Ingals's paper which related to feeding the patient while the tube was in the larynx he regarded as very important. He had before proposed, and the point was worthy of consideration, that, when necessary, the patient might be fed through a small tube introduced into the œsophagus. More than a year ago Mr. Henry Butlin, of London, had written him stating that for some time he had practiced in his wards in St. Bartholomew's Hospital the method of feeding tracheotomized patients by means of a small œsophageal tube, and said that since he and his assistants had carried out this plan the percentage of recoveries had been materially increased. The speaker thought the method was a good one, and worthy of a trial in some of these cases of intubation. He regarded the constant presence of a thoroughly competent attendant as of great importance.

Dr. **Morris** J. **Asch**, of New York, thought intubation of the larynx not only extremely interesting, but also extremely valuable; it had done a great deal of service in relieving patients of dyspnœa, even if it had not cured disease. Still, there were a few objections to it which he thought ought to be noticed. One was a very serious one, namely, that false membrane might be crowded down before the tube and create a dyspnœa which it was very difficult, if not impossible, to relieve, although tracheotomy was resorted to. Such a case had occurred very recently in New York. Intubation of the larynx was done in a grown person, false membrane was forced down before the tube, and tracheotomy had to be performed to save the patient's life. The other objection which general practitioners made to the tube was the extreme difficulty of removing it, one or two patients having died during attempts at its extraction.

Dr. B. F. **Westbrook**, of Brooklyn, thought that, if there were some means of attaching a thread or fine wire to the tube by which it could be removed with ease by those not accustomed to laryngeal manipulation, it would be a great advantage. The general practitioner was more likely to be called upon to do intubation than the laryngologist or the surgeon; hence the importance of an easy method of removing the tube. With regard to the interference with deglutition, he did not think the tube was heavy enough to interfere with the movements of the larynx. The muscles which caused the movements of the larynx and trachea in the act of swallowing were very powerful, and a slight weight would not be any restraint upon them. It seemed to him that the difficulty with deglutition consisted in the presence of a rigid tube which left the entrance to the larynx open. Still, this seemed to be a necessary evil. No elastic instrument, he thought, would accomplish what the rigid tube had done.

Dr. J. **Solis-Cohen**, of Philadelphia, said it might seem strange for a man who had had no experience with intubation to have anything to say about it. Still, he had given the subject a good deal of thought; he had seen one or two cases of intubation; and on one or two occasions, when called upon to perform tracheotomy, he had been able to introduce the laryngeal tube when the gentleman in charge had failed to do it. He had been very much struck with Dr. Ingals's statement, that after intubation the patient required no more attention than if the operation had not been performed. That was undoubtedly not in accord with the views entertained by some writers, and also with some statistics which Dr. Ingals himself had given in his paper. He had mentioned one or two instances in which the patient died shortly after the tube had been coughed out, and in others we knew the patient had died because there was no one to remove the tube and it could not be coughed out. As the removal of the tube required much more skill than its introduction, the speaker would think it more important to have a skilled attendant at the bedside of the patient the next day or two after its introduction, ready to remove the tube in case of accident, than if tracheotomy had been performed. If a tracheotomy-tube became occluded, it was very easy for the nurse to remove it, and there would be the ordinary wound, through which the patient could breathe until the physician was called, or the sides of the wound could be held open.

With regard to the difficulty of taking food after intubation, if it were necessary, fluids and fluid nourishment could be given, as they were sometimes given to the insane, through a soft catheter passed through the nose into the œsophagus. The speaker had had no experience with this method; it might be impossible in children. Much had been said about the difficulty of withdrawing the tube by the forceps devised by Dr. O'Dwyer, and it would seem that this difficulty could be overcome by making a recess in the tube into which a corresponding projection on the forceps would fit.

With regard to Dr. Sajous's instrument, he had nothing to say further than that he would prefer to suspend judgment regarding his method until it had been used with success on the living subject.

Dr. S. H. **Chapman**, of New Haven, said that, although the entrance of fluids into the trachea was dangerous, yet one of the most distressing symptoms after intubation was thirst. Could we not in these cases give sufficient fluids by the rectum for the few days during which the laryngeal tube was in place? Again, was it not possible to introduce mercury into the system by some other means, as by inunction, so that the distressing symptom of dryness of the mouth caused by giving it in that way might be avoided? Was it not also possible, by means of washing and bathing the mouth with some fluid, to relieve the thirst?

Dr. Ingals would say, with regard to the withdrawal of the tube, and the necessity for having a trained attendant present ready to withdraw it should it become necessary, that at first he had held the same views presented by Dr. Cohen, but now he had no fear whatever of the tube becoming clogged and choking the child. The accident was so rare, and the child was so much more likely to die in some other way, that the possibility of the accident did not trouble him. The withdrawal of the tube was much more difficult than its introduction—so difficult that anæsthetics had been recommended. However, he did not know that much trouble had arisen in this respect. There had been two or three children killed in attempts to withdraw the tube by physicians who had too great faith in their skill and failed to send for a laryngologist when they recognized the difficulty. The laryngeal mirror, however, was not commonly used in accomplishing this.

The tube, if it became clogged, was almost sure to be coughed up if of proper size. A wire or a thread left attached to the tube, to facilitate its extraction, had been found to produce too much irritation.

Feeding through a tube introduced into the œsophagus had been practiced in a few instances in Chicago—he did not know with what success. The gentlemen who had practiced it seemed to have little to say about it.

Dr. Sajous wished to say that he had presented his instruments merely in illustration of the principal objections to Dr. O'Dwyer's tubes, not because of their demonstrated superiority, for he had in the short time since they had been made had opportunity to use them only in experiments upon the dead body. They had been presented principally for the purpose of raising a discussion and of thus overcoming difficulties connected with intubation. He might say, with regard to his tube, that it could be extracted with the greatest ease. The upper end of the instrument formed a kind of funnel, and in extracting it the operator had simply to let the forceps drop into this funnel; then it would become firmly fixed in the tube, enabling the operator, if necessary, to use great extractive force.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN MATERIA MEDICA AND THERAPEUTICS.

Meeting of May 27, 1887.

Dr. Andrew H. Smith, Chairman;
Dr. George Dalton Hays, Secretary.

The Treatment of Pulmonary Diseases by Gaseous Enemata.—Dr. George Dalton Hays read a paper with this title. (See page 91.)

Dr. Simon Baruch remarked that he had tried the method in the Montefiore Home for Chronic Invalids, but time enough had not yet elapsed for the test to have been a fair one. He was indebted to the house physician, Dr. Charles Schramm, for notes of the cases. The apparatus used had been kindly obtained for the speaker by Dr. J. Solis-Cohen, of Philadelphia. The best results had been observed in those cases (two in number) that had been longest under the treatment. In two cases the appetite was improved, but nausea was produced in one case. In one instance the sweats, previously very abundant, had ceased entirely after nine days of the treatment. In all the cases the bowels were constipated or made regular if there had previously been diarrhœa. The cough was improved a little in one case; the expectoration was improved in three cases. In one case the patient lost weight. Râles became less abundant in two cases, and the dullness less marked in one case. The temperature was not modified in any instance. In one case, that of an infant, sixteen months old, supposed to be suffering from pulmonary and general tuberculosis, the patient was in a hopeless condition when the treatment was tried, and, as there was excessive tympanites, the speaker believed that the distension of the large intestine from that cause interfered with the penetration of the gas injected, for its odor could not be detected in the breath. The child died three days after the trial. So far as these data went, the speaker was inclined to regard the results as favorable. It was true that there had been rather a uniform loss of weight, but we knew that the weight fluctuated in consumptives, according to the condition of their nutrition. The patients longest under the treatment had lost the least flesh. The data would lead to the conclusion that the method was an effectual remedy for the diarrhœa of phthisis, probably because the hydrogen sulphide had free access to the diseased surface. We might feel encouraged to continue the use of the treatment, in the hope that improved methods and perhaps more frequent administration might lead to better results.

Dr. F. P. Kinnicutt had employed the treatment in seven cases of well-advanced phthisis, and five of the patients had been greatly benefited. He felt much encouraged with the results thus far.

The Chairman thought that the difference in the results witnessed by different observers had, no doubt, been largely due to the use of various methods of generating the gas, so that varying quantities of it had been administered.

Dr. Hays said that, while we were justified in viewing this new procedure very critically, the remarkable uniformity of the results thus far recorded warranted the hope that it was a valuable therapeutical agent.

Antipyrine in the Treatment of Headache was the subject of a paper by Dr. W. H. Thomson, who said that he had used the drug on the recommendation of Dr. J. Blake White, but without expecting any success, for, although antipyrine reduced the temperature, it did not affect acute disease favorably, but sometimes made it worse. His first use of the drug in headache was on the 24th of September, 1886, and he had employed it with unfailing benefit ever since. He then gave the histories of some twenty cases of headache—nervous, malarial, and dyspeptic—in all of which he had used the drug successfully, in doses of from five to fifteen grains, repeated as often as was necessary to produce the desired effect. His conclusions were: That antipyrine was of great value in true migraine; that malarial headache was mitigated by its use, but not to so decided a degree; that dyspeptic headache was sometimes mitigated; that uræmic headache was not affected.

Dr. J. Blake White had given the drug a thorough trial before reporting upon it. In two years' constant use of it he had never been disappointed with it. Its action, he thought, was exerted first upon the nervous system, then upon the circulation, and finally upon the respiration. He had always observed some hypnotic effect from it.

Dr. W. R. Birdsall considered antipyrine the most valuable single remedy for headache—useful, above all, in forms of migraine not amenable to other treatment. It was useful in the same cases as ergot and amyl nitrite. Given at the beginning of the attack, five grains would not infrequently suffice. The gastric headache following a debauch was promptly mitigated by one or two doses.

Dr. Thomson said that he was strongly prejudiced against the use of antipyretics as such, unless the mere temperature was affecting the muscular tissue unfavorably—especially were they unsafe in pneumonia and in such continued fevers as typhoid.

Book Notices.

Hand-book of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription Writing. By SAMUEL O. L. POTTER, M. A., M. D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx–17 to 828. [Price, $3.]

So many valuable works upon materia medica and therapeutics are available to those who wish to study this branch that it would have seemed almost a work of supererogation for anybody to add another to the list. The works of Wood, Bartholow, Ringer, Waring, and Lauder Brunton, together with the National Dispensatory, the United States Dispensatory, and a host of smaller books for students, supply about all the knowledge that anybody could possibly master upon this subject; but, in spite of all this, we think that Dr. Potter's hand-book will find a place, and a very important one, in our colleges and the libraries of our practitioners. It contains almost everything that can be found in the larger works in a more concise form and brought up to a rather more recent date. In it will be found descriptions of such new drugs as antifebrine, boldine, hoangnan, ichthyol, lanolin, urethane, etc., containing about all the information in regard to them that can be had without reference to recent journal articles.

The section on pharmacy and prescription-writing is very carefully prepared, all the pharmaceutical processes are described, and the composition of the official preparations is given. Under the head of prescription-writing considerable attention is paid to the subject of incompatibilities, and the student will here find many valuable hints for his guidance in this difficult subject. Besides this there are, under the head of special therapeutics, very many formulæ for the treatment of particular diseases and abnormal conditions, arranged alphabetically for easy reference. This will be especially valuable to young practitioners, and will frequently save the trouble of looking through large works and monographs for suitable formulæ in the treatment of special cases.

This department is fuller in this book than in any with which we are acquainted. The book begins with an introduction, in which the author takes pains to define the more important terms used in pharmacology, materia medica, etc. The old term *officinal* is dropped, and in place of it the author uses the word *official* as representing more exactly the status of those preparations which have received the sanction of the boards of pharmacy and been admitted into the United States Pharmacopœia. The subject of the administration of medicines receives all the attention that is necessary in the four pages devoted to it. From this we pass to Part First, which is devoted to materia medica and therapeutics. Here the plan of the Dispensatory is followed, the author beginning with a description of the medicinal agent, its natural history, chemistry, and so on, then giving a list of its preparations and the methods of preparing them, and concluding with an account of their physiological action and therapeutic application. This section is as full as can be desired in a work of this kind. It occupies some 425 pages. Next comes that on pharmacy and prescription-writing, already referred to, then special therapeutics, and finally an appendix, in which is contained a vast amount of miscellaneous information, such as the Latin terms, etc., used in prescriptions, formulæ for hypodermic medication, a section on patent medicines, the treatment of poisons, tables of differential diagnosis, obstetrical memoranda, clinical examination of the urine, etc. The most remarkable part of this section is that headed Ethics, which gives the Hippocratic oath and some extracts from the code, containing some of the more important directions for professional conduct, such as a young physician might sometimes desire to refer to, and a little miscellaneous advice, such as "A case should never be abandoned because it is supposed to be a hopeless one"; "Contumelious and sarcastic remarks relative to the Faculty as a body should always be avoided"; "It is held unprofessional to resort to public advertising, to hold a patent on an instrument, or to dispense or prescribe a secret nostrum"; "Gratuitous services should be given to a brother practitioner if compelled to temporarily suspend his practice on account of sickness. The attending physician should turn the fees over to the sick one save in surgical or obstetrical cases." We can conceive of no reason for the introduction of this extraordinary section into a work on materia medica and therapeutics. Taken as a whole, the work is a very valuable one, evidently the result of an immense amount of labor, and one which we can heartily recommend to every American practitioner.

Clinical Manual for the Study of Medical Cases. Edited by JAMES FINLAYSON, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary, etc. Second Edition, revised and enlarged. With One Hundred and Fifty-eight Illustrations. Philadelphia: Lea Brothers & Co., 1886. Pp. xii–13 to 683.

THE second edition of this manual is a very considerable improvement upon the first. Much new matter has been introduced, and the work has been brought up to the present time in all respects. The number of illustrations has been nearly doubled, much new matter has been added, and large portions of the book have been entirely rewritten. The plan of the work is somewhat different from that of Dr. Da Costa's, but its scope is about the same, and it is in no way inferior to it; in fact, as it stands it is one of the best manuals of diagnosis for beginners in the English language. The names of Dr. W. T. Gairdner, Dr. Alexander Robertson, Dr. Joseph Coats, and other gentlemen of great reputation in their special departments, are in themselves a sufficient guarantee of the value of the book and of the reliability of the statements contained in it. Dr. Gairdner's article on the Physiognomy of Disease will be found especially useful to senior students and young physicians just entering upon their clinical studies. The simple lucidity of its style does not in any way obscure the great erudition for which the author is renowned. It could only have been written by one who had had a vast clinical experience and had brought to its analysis the most rare and varied intellectual gifts. The notes on Case-taking by Dr. Finlayson are very carefully prepared, and his recommendations are evidently the outcome of large experience both in private practice and in the wards of hospitals. Dr. Robertson's section on the diagnosis of the various forms of insanity and mental weakness will prove instructive not only to beginners in medicine, but to those who, having pursued their studies before psychiatry had reached the advancement which it has attained at the present day, require some guide in the elucidation of the many problems which we encounter in the examination of this class of patients. Indeed, this subject has so entirely changed in the last few years, and the classification, which was formerly based upon purely metaphysical notions, has now assumed so many of the characters of exact science, that those who obtained their knowledge fifteen to twenty years ago, and have not since taken the pains to keep pace with the advances in this department, will be surprised at the almost complete revolution which has taken place, both in our knowledge of the subject and in the nomenclature of the various forms of mental derangement.

In the section on the examination of the throat and nose we get a more complete description of the methods of investigation than can be found in most of the works on medicine, or even in the special treatises on laryngology, though, of course, we miss the illustrations of pathological conditions that are found in the larger works upon laryngology. The section on the examination of the urine is also very complete and well illustrated. It will serve as a sufficient guide to any beginner in the study of this department.

What has been said of the previous sections will apply equally well to those on the disorders of the female organs, by Dr. William Stevenson, and on the physical examination of the chest and abdomen, by Dr. Samson Gemmell, of Glasgow. In fact, the whole work is so complete and so simply written, and yet contains such an amount of valuable information, that it should be a part of the library of every practitioner.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

J. B. Baillière & fils, Paris.—F. Villar, "Tumeurs de l'ombilic." (3*fr.* 50.)

A. Coccoz, Paris.—P. Latteux, "Manuel de technique microscopique." (13*fr.*)

A. Delahaye & E. Lecrosnier, Paris.—G. Sée and Labadie-Lagrave, "Médecine clinique." Vol. v. (4*fr.*)

O. Doin, Paris.—L. E. Bertrand and J. Fontan, "De l'entéro-colite des pays chauds." (9*fr.*)

Lahure, Paris.—C. James, "M. Pasteur. Sa nouvelle méthode dite méthode intensive peut-elle communiquer la rage?" (1*fr.*)

F. Hayez, Brussels.—Stocquart, "Traitement chirurgical de l'ongle incarné."

J. F. Bergmann, Wiesbaden.—L. Löwenfeld, "Die moderne Behandlung d. Nervenschwäche (Neurasthenie), d. Hysterie u. verwandter Leiden." (2*M.* 40.) —— O. Reumer, "Der derzeitige Standpunkt d. Schutzimpfungen." (2*M.*)

W. Braumüller, Vienna.—P. Profanter, "Die Massage in d. Gynäkologie." (2*M.* 50.) —— G. Wertheim, "Differentialdiagnose d. verschiedenen syphilitischen Geschwüre." (0*M.* 40.) —— E. Bock, "Zur Kenntniss d. bandförmigen Hornhauttrübung." (2*M.*)

F. Enke, Stuttgart.—A. Villaret, "Handwörterbuch d. gesammten Medizin." Part 1. (2*M.*) —— R. v. Krafft-Ebing, "Psychopathia sexualis, mit besonderer Berücksichtigung d. conträren Sexualempfindung." (3*M.* 60.) —— C. F. Kunze, "Compendium d. prakt. Medicin." 9th ed. —— Nussbaum, "Leitfaden zur antiseptischen Wundbehandlung." 5th ed. (6*M.*)

T. C. F. Enslin, Berlin.—Schuster, "Die Syphilis." (3*M.*)

F. W. Grunow, Leipsic.—F. Ahlfeld, "Ber. u. Arbeit. aus d. geburtsh.-gynäkolog. Klinik zu Marburg, 1885–'86." Vol. iii. (8*M.*)

A. Hirschwald, Berlin.—J. Orth, "Aetiologisches u. Anatomisches über Lungenschwindsucht." (1*M.* 60.)

H. Laupp, Tübingen.—C. Gerhardt, "Handbuch d. Kinderkrankheiten." 2d suppl. ("Die psychischen Störungen," by H. Emminghaus.) (6*M.*)

Lipsius & Fischer, Kiel.—M. Petersen, "Ueber Hornhautflecke als Ursache d. Myopie u. Anisometropie." (0*M.* 80.) —— M. Reimann, "Gesundheitslehre auf naturwissensch Grundlage." (7*M.* 50.)

M. Perles, Vienna.—J. Grünfeld, "Kompendium d. Augenheilkunde." 4th ed. (10*M.* 80.)

M. Rieger, Munich.—C. Schlösser, "Exper. Studie über traumatische Katarakte." (4*M.*)

H. Steinitz, Berlin.—L. Löwe, "Das Ohr."

F. C. W. Vogel, Leipsic.—G. Hünerfauth, "Handbuch d. Massage." (6*M.*) —— C. Hueter, "Grundriss d. Chirurgie," 4th ed., vol. ii, part 5. (25*M.*) —— A. Landerer, "Vorschriften f. d. Behandlung von Rückgratsverkrümmungen mit Massage." (0*M.* 50.) —— C. Liebermeister, "Vorlesungen über specielle Pathol. u. Therap." Vol. iii. (6*M.*) —— A. Weil, "Ueber d. Aufgaben u. Methoden des medicinisch-klinischen Unterrichts." (0*M.* 80.)

F. Wreden, Brunswick.—A. Seeligmüller, "Lehrbuch d. Krankheiten des Rückenmarks u. Gehirns sowie d. allg. Neurosen." Part ii. (10 *M.*) —— A. Baginsky, "Lehrbuch d. Kinderkrankheiten." 2d ed.

G. Jovene, Naples.—E. de Renzi and G. Amoroso, "Ricerche sperimentali sulla rabbia." 2d report.

Fratelli Rechiedei, Milan.—F. Orsi, "Lezioni di patologia e terapia speciale medica." 2d ed. 12*l.*)

BOOKS AND PAMPHLETS RECEIVED.

Le Iniezzioni intrapleurali e le crisi epilettiche; loro teoria. Comunicazione preventiva del Dott. Giovanni Pascale (atti dell' Accademia medico-chirurgica di Napoli). [Estratto dal "Morgagni."]

The Causes and Prevention of Infantile Diarrhœal Diseases. By F. R. Campbell, A. M., M. D., etc. [Reprinted from the "Buffalo Medical and Surgical Journal."]

What to do in Cases of Poisoning. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics in the Westminster Hospital, etc., London. First American from the Fifth English Edition. Edited by Frank Woodbury, M. D., Fellow of the College of Physicians of Philadelphia, etc. Philadelphia: The "Medical Register" Company, 1887. Pp. 158.

The Mineral Waters of Vichy and the Diseases in which they are Indicated, followed by a Sketch of some of the Principal Excursions in the Environs. With Two Colored Maps. By Dr. C. E. Cormach, Laureate of the Faculty of Medicine of Paris, etc. London: J. & A. Churchill, 1887. Pp. xii–375.

Transactions of the New York State Medical Association for the Year 1886. Volume III. Edited for the Association by Alfred Ludlow Carroll, M. D., of Richmond County. Concord, N. H.: "Republican Press" Association, 1887. Pp. viii–601.

On the Pathology and Treatment of Gonorrhœa and Spermatorrhœa. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. New York: William Wood & Company, 1887. Pp. x–474. [Price, $4.]

Handbuch der physiologischen Optik. Von H. von Helmholtz. Zweite umgearbeitete Auflage. Mit zahlreichen in den Text eingedruckten Holzschnitten. Vierte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 241 to 320.

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbststudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg im Pr. Siebente, neu bearbeitete Auflage. Mit zweihundertundfünfundachtzig in den Text eingedruckten Holzschnitten. Dreizehnte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 561 to 758.

Caso classico di osteomalacia maschile. Considerazioni e ricerche del Dott. Carlo Burani, Assistente nel R. Instituto di farmacologia sperimentale e clinica terapeutica, etc. Tesi di laurea. Modena: G. T. Vincenzi e Nipoti, 1887.

The Diagnosis and Treatment of Uterine Flexions. By John Blake White, M. D., New York. [Reprinted from "Gaillard's Medical Journal."]

Observations upon the Habits of Micropus Melanoleucus, with Critical Notes on its Plumage and External Characters. By R. W. Shufeldt, C. M. Z. S., Captain Medical Corps, U. S. Army.

Importance and Value of Experimental Research. Doctorate Address delivered at the Graduating Exercises of the College of Physicians and Surgeons, Chicago, Ill., Feb. 21, 1887. By N. Senn, M. D., Milwaukee, Wis. [Reprinted from the "Western Medical Reporter."]

A Critical Comparison of a Series of Skulls of the Wild and Domesticated Turkeys (*Meleagris gallopavo Mexicana* and *M. domestica*). By R. W. Shufeldt, C. M. Z. S., Captain Medical Corps, U. S. Army. [Reprinted from the "Journal of Comparative Medicine and Surgery."]

Eighteen Cases of External Perineal Urethrotomy. By H. O. Walker, M. D., Professor of Genito-urinary Diseases and Clinical Surgery in the Detroit College of Medicine. [Reprinted from the "Medical and Surgical Reporter."]

A Unique Case of Bilateral Athetosis. By C. H. Hughes, M. D., St. Louis. [Reprinted from the "Alienist and Neurologist."]

The Relation of the Nervous System to Hæmophilia, Malarial Hæmaturia, etc. Second Paper. By C. H. Hughes, M. D., St. Louis. [Reprinted from the "Alienist and Neurologist."]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

The Mechanical Treatment of Skin Diseases.—In the treatment of acne vulgaris, rosacea, sycosis in its chronic form, trichophytosis barbæ with nodular lesions, and lupus erythematosus, Rosenthal ("Vrtljsschr. f. Derm. u. Syph.") recommends multiple scarifications followed by massage. The scarifications should be made in all directions, and with a small, fine, sharp scalpel. He prefers this to any multiple-bladed instrument. After the bleeding following the scarifications has ceased, he strokes the part in a centripetal direction for five or ten minutes, using one or two fingers or a piece of dry lint. Then the part is to be washed and left uncovered. He thinks that he has produced better results with this method than with the parallel incisions commonly employed alone.

Tuberculosis of the Skin and Mucous Membranes.—Schwimmer (*ibid.*) does not doubt that both lupus and tuberculosis of the skin and mucous membranes are caused by a bacillus; still, he thinks that clinically they should be regarded as different, for the following reasons: 1. The great rarity of tuberculosis, the relative frequency of lupus, and the different development of both processes. In the past year and a half he has had only five cases of primary tuberculosis cutis, and ninety cases of lupus, at his clinic. The tubercular process very quickly breaks down, while the lupous process is very slow in its development and course. 2. Tuberculosis almost always begins on the mucous membrane, and from there passes over to the skin, while lupus nearly always takes the opposite course. 3. The different effect of the lupous and tubercular skin disease upon the general health. Among his ninety lupous patients, 68 per cent. were free from other evidences of tuberculosis. On the other hand, tuberculosis of the skin and mucous membranes is always an expression of a constitutional affection. 4. The relation of the bacillus of lupus to that of tuberculosis. He does not go so far as to question that the bacillus in both is identical, but believes that their identity is not completely proved. Inoculations with either tubercular or lupous elements have not yet produced lupus. The relationship of tuberculosis to lupus is not to be denied; still, the two diseases are not identical, and to say that lupus is the first grade of a general tuberculosis is going too far. The two diseases demand different modes of treatment. Lupus is curable by means that insure the destruction of the neoplastic growth. Tuberculosis is not so amenable to the same means. They answer well for tuberculosis of the skin, but not of the mucous membranes. For the latter, mild measures are better adapted, and he has had most success with a 5-per-cent. papayotin solution, which is of no use in lupus.

Epithelioma developing upon Lupus Vulgaris.—Raymond, after presenting a number of illustrative cases ("Ann. de derm. et de syph."), makes the following deductions: 1. Epithelioma developing upon an active lupus is a very rare complication. It is probable that some cases diagnosticated as lupus vorax have been of this order. 2. Epithelioma develops upon tubercular lupus, principally upon the face. 3. This does not occur in infancy or adolescence. 4. It is more frequent in men than in women. 5. It occurs oftenest in cases of lupus of long standing. 6. Sometimes the pre-existing lupus is "non exedens," with or without central cicatrix. Sometimes it is "exedens," and then the epithelioma often appears to develop itself directly upon one of the ulcers, the lupoid granulations being replaced by cancerous elements. 7. Epithelioma may develop upon lupus which has been treated or has not been treated. When this accident occurs, the course of the disease is rapid, the patient dying within a few months. When a case of this description is met with, the neoplasm should be operated upon at once, and with a free incision.

Lichen Planus Atrophicus.—Hallopeau, in a series of lectures upon skin diseases delivered at the Hôpital St. Louis ("Union méd."), describes an atrophic form of lichen planus. It begins with the papules of common lichen planus, though they are somewhat lighter colored; gives rise to pruritus; grows paler and depressed; and forms white spots cicatricial in appearance, and remarkable on account of their punctiform depressions. The papules often run together and form surfaces of considerable extent and irregular outline, with a sieve-like-looking cicatricial surface. At the periphery of the patches there are isolated papules in different stages of development and disappearance. The patches are disseminated on the trunk and limbs.

Hyperkeratosis Subungualis is the name given by Hebra ("Montschft. f. prakt. Derm.") to that condition of the nails in which we meet with more or less deformity of the nail in front of the lunula, and a mass of soft, crumbly substance between the nail and its bed. At times the nail is raised from 1 to 5 mm. by this gray or greenish-black mass. This is due to a hyperkeratosis, and occurs idiopathically. The author was successful in curing the case reported in his paper by the use of the Paquelin cautery. He burned away the mass and the nail in a series of sittings, eighteen in all. Then the nail grew in a healthy way, and remained sound up to the time of his reporting the case, more than a year in all.

Impetigo Herpetiformis.—In the "Vierteljahresschrift für Derm. und Syph." Kaposi makes an earnest plea for the independence of the impetigo herpetiformis of Hebra, and protests against its being made only a variety of Duhring's dermatitis herpetiformis. The latter is described as marked by erythema and vesiculation, occurring as often in men as in women, and relapsing very frequently. By Duhring the name is made to cover herpes iris et circinatus, pemphigus circinatus et pruriginosus, and impetigo herpetiformis. Kaposi emphasizes the fact that the name impetigo herpetiformis expresses exactly the characteristics of the disease—namely, *pustules* (that is, efflorescences filled with pus) that appear in groups, which spread peripherally while undergoing involution at the center, just like the groups of herpes. *Only pustules seated upon an inflammatory base appear in the disease.* As vesicles are absent, the name "impetigo circinata et iris" might be more fitting. The disease is accompanied with chills and fever, has a predilection for the genito-crural region, the mammæ, and the mucous membranes, and ends fatally either in the first outbreak or in a relapse. It occurs in pregnant women or in the puerperal state in the vast majority of cases. Only one man has been reported with the disease. Kaposi is inclined to think that it is caused by some pyæmic process, though he is unable to prove it.

The Treatment of Alopecia Areata.—Schachmann has found the treatment of this disease with blisters to be the most efficient, and reports ("Ann. de derm. et de syph.") twenty-nine cases treated by him in this way. The duration of his treatment was never more than three months, and generally less than two. In no case were the blisters followed by erysipelas or other complications. His mode of employing blistering was as follows: A blister as large as the denuded area is applied upon the patch and left on until the bullæ form, then removed, and the blister dressed. When the skin is dry, usually on the third day, a new blister is applied, and so on up to three, six, or even ten blisters. The remainder of the head is rubbed morning and night with oil of turpentine 20 parts, ammonia-water 5 parts, and water 100 parts. If there is but one moderate-sized patch or a few small ones, blisters are applied to all simultaneously. But if the patch is very large, or when the whole scalp is affected, the head is divided into districts, and these are attacked successively. The hair is shaved from about the patches.

The Continuous Treatment of Syphilis with Mercury.—Caspary ("Vrtljschrft. f. Derm. u. Syph.") speaks very decidedly against the continuous administration of mercury in the treatment of syphilis. He regards the drug as a means of combating symptoms, but not suitable for continuous use. He does not believe in Fournier's teaching that cases of syphilis, either untreated or inadequately treated, are always followed by severe tertiary manifestations. He, therefore, while by no means believing that the disappearance of the symptoms is the same as a cure of the disease, does not think it necessary to continue the use of mercury long after their disappearance. He holds that the continuous use of mercury is capable of causing ulceration in the lower parts of the intestines, and experimentally he has produced such ulcerations in dogs with doses too small to affect their general health. He therefore believes that the continuous administration of the drug is dangerous. Moreover, he regards it as quite likely that mercury is not so active an agent for the treatment of the latent periods of syphilis as for the more active periods; just as salicylic acid is a more useful means of treating the acute than the chronic forms of rheumatism.

Miscellany.

The Bergeon Treatment of Phthisis.—In a recent communication to the *Académie des sciences*, published in the "Union médicale," M. Bergeon says that, when very pure carbonic-acid gas is injected into the rectum of either a healthy man or a sick one, it may be found in the products of expiration, provided the operation has been properly performed. The gas is apparently absorbed from the lower part of the large intestine, for no distension of the abdomen is observed, even when a certain volume of gas is injected somewhat rapidly; he has often injected two or three quarts in the course of ten or fifteen minutes without producing the slightest meteorism. It is eliminated by the lungs as fast as it is injected, the pulmonary interchange of gases being accelerated to what may be termed a pulmonary diuresis. In this matter, the carbonic acid seems to play in the respiration a part analogous to that of the water in the renal secretion; the gas, traversing the tissues, becomes charged with excretory products, of which it serves to rid the system, cleansing the venous blood, the lungs, the bronchi, and the air-passages. To produce these effects, and especially to act therapeutically, it is indispensable that the gas injected should really traverse the lungs and escape by the glottis. Gas made with impure materials, or kept for a certain length of time in rubber bags, as is sometimes the case, produces tympanites and colic. Under such circumstances the gas does not pass through the lungs, and it is not strange that it does not produce the desired therapeutical effects. As nothing is more difficult than to cleanse impure carbonic-acid gas, M. Bergeon recommends its formation from faultless materials and the use of a glass apparatus from which it is conducted directly into the rectum. He is convinced that most of the failures reported have been coincident with colics due to the use of defective apparatus or impure gases.

The American Neurological Association held its thirteenth annual meeting at the West End Hotel, Long Branch, N. J., on Wednesday, Thursday, and Friday, the 20th, 21st, and 22d inst.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 14th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending June 25th corresponded to an annual rate of 17·6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Halifax, viz., 7·2, and the highest in Preston, viz., 30·1 in a thousand.

London.—One thousand two hundred and eighty-seven deaths were registered during the week ending June 25th, including 98 from measles, 14 from scarlet fever, 19 from diphtheria, 79 from whooping-cough, 6 from enteric fever, 30 from diarrhœa and dysentery, and 2 from cholera and choleraic diarrhœa. There were 213 deaths from diseases of the respiratory organs. Different forms of violence caused 55 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 15·9 in a thousand. In greater London, 1,608 deaths were registered, corresponding to an annual rate of 15·5 in a thousand of the population. In the "outer ring" 14 deaths from measles and 9 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending June 25th, in the sixteen principal town districts of Ireland, was 23·2 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 0, and the highest in Dundalk, viz., 34·9 in a thousand.

Dublin.—One hundred and eighty-seven deaths were registered during the week ending June 25th, including 21 from measles, 1 from whooping-cough, 1 from diphtheria, and 4 from scarlet fever. Diseases of the respiratory organs caused 30 deaths. Eight accidental deaths were registered, and in twenty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27·6 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending June 25th corresponded to an annual rate of 20·3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 14·6, and the highest in Paisley, viz., 34·2 in a thousand. The aggregate number of deaths registered from all causes was 507, including 9 from measles, 8 from scarlet fever, 5 from diphtheria, 38 from whooping-cough, and 10 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending June 18th, corresponded to an annual rate of 22·6. The lowest rate was recorded in Wiesbaden, viz., 10·9, and the highest in Bochum, viz., 32·6.

Callao.—The United States consul, in his dispatch under date of June 7, 1887, states that "the Government of Peru has removed the restrictions adopted respecting vessels from Chilian ports during the prevalence of cholera in that republic. Now that official advices have been received announcing the total disappearance of the epidemic in Chili, the ports of Peru are reopened to shipping proceeding from those of Chili after a medical examination has been practiced, and the vessel declared in full pratique. The effects of this measure will be beneficial in the extreme to Callao."

Palermo.—The United States consul reports, under date of July 6th, "two sudden deaths; believed cholera."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	June 18.	2,260,045	1,000	..	....	13	....	18	4	28
Paris	June 25.	2,260,045	909	..	....	5	....	10	5	21
Glasgow	June 18.	545,678	217	..	....	...	....	3	6	2
Glasgow	June 25.	545,678	207	..	....	....	....	1	5	3
Warsaw	June 11.	439,174	214	..	....	12	....	....	....	....
Warsaw	June 18.	439,174	195	..	....	15	....	....	....	....
Calcutta	May 14.	433,219	155	21	....	....	....	....	....	....
Calcutta	May 21.	433,219	210	72	....	2	....	....	....	....
Amsterdam	June 18.	378,686	135	..	....	1	1	....	....	3
Amsterdam	June 25.	.....	148	..	....	....	....	....	....	2
Munich	June 11.	269,000	212	..	....	....	....	1	3	4
Edinburgh	June 11.	258,629	104	..	....	....	1	...	1	1
Palermo	June 25.	250,000	93	..	....	....	....	1	10	3
Belfast	June 18.	224,422	102	..	....	....	....	2	1	1
Bristol	June 18.	223,695	76	..	....	....	....	1	2	....
Havana	June 30.	208,000	178	..	36	12	....	2	....	....
Trieste	June 18.	150,157	65	..	....	3	....	....	....	1
Stuttgart	June 25.	125,510	52	..	....	....	....	....	....	1
Toronto	July 1.	120,000	19	..	....	....	....	....	....	1
Bremen	June 18.	119,000	30	..	....	....	....	....	1	1
Havre	June 25.	112,074	56	..	....	2	....	2	....	....
Pernambuco	May 31.	111,000	75	..	....	1	1	....	....	....
Reims	June 25.	97,903	40	..	....	....	....	2	1	....
Guayaquil	June 3.	35,000	60	..	4	5	....	23	....	...
Guayaquil	June 10.	35,000	55	..	1	5	....	19	....	....
Vera Cruz	June 30.	23,800	18	..	1	....	....	....	....	....
Gibraltar	June 12.	23,631	11	..	....	....	....	....	....	1
Tampico	June 19.	7,300	10	..	....	1	....	....	....	....

UNITED STATES.

Key West—Yellow Fever.—The medical officer in charge of the United States Marine-Hospital Service (Passed Assistant Surgeon John Guitéras) reports, under date of July 14th, 110 cases and 30 deaths; and that Hospital Steward W. L. Wells, who was stricken with the disease, has recovered.

The Health of Boston.—During the week ending Saturday, July 16th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 14 cases and 3 deaths; scarlet fever, 6 cases and 1 death; typhoid fever, 8 cases and 3 deaths; measles, 71 cases and 2 deaths. There were also 25 deaths from consumption, 6 from pneumonia, and 11 from marasmus. The total number of deaths was 211, against 181 in the corresponding week last year. This is said to be the largest number of deaths that has occurred in the same length of time for many years. More than one half of the deaths were those of children under five years of age, the deaths from cholera infantum alone being 54 in number.

An Abortionist was sentenced last week, in Philadelphia, to seven years in the Eastern Penitentiary, a woman having died from the effects of a criminal operation performed by him.

THERAPEUTICAL NOTES.

Iodide of Mercury and Morphine.—Herding ("Pharm. Ztg."; "Dtsch. Med.-Ztg.") calls attention to the danger of prescribing morphine and iodide of mercury at the same time, on account of the formation of a double iodide of the two bases, which is highly poisonous.

Cyanide of Mercury in the Treatment of Diphtheria.—Bree ("Inaug. Dissert."; "Allg. med. Ctrl.-Ztg."; "Ctrlbl. f. d. ges. Therap.") reports 318 cases of diphtheria treated with mercury cyanide, with only 4 deaths. At the outset he gives from two to three drops of a 1-to-1,000 solution in alcohol, every four hours, afterward diminishing the dose progressively. The remedy is said to oppose the extension of the morbid process and to ameliorate the subjective symptoms. In the course of a night, a threatening case has been so mitigated as to come to an end in three days. Thus involvement of the larynx or the nasal passages and the occurrence of sequelæ are prevented with almost absolute certainty, and the convalescence is shortened.

Croton-Oil as a Remedy against Tapeworm.—The "Gazette médicale de Montréal" attributes the following formula to Persh:

Croton-oil	1 drop;
Chloroform	1 drachm;
Glycerin	1 ounce.

To be given early in the morning, a saline purgative having been given the night before.

A Substitute for Iodoform.—Chassaignac ("New Orleans Med. and Surg. Jour.") recommends the oxyiodide (subiodide) of bismuth as an efficient substitute for iodoform. He describes it as of a bright brick-red color, impalpable when well powdered, almost odorless and tasteless, insoluble in water, alcohol, ether, or chloroform, and not imparting its color to linen. It may be made, he says, so as to cost only from $3 to $3.50 a pound, although ten years ago, when it was recommended by Dr. A. S. Reynolds, its cost was a bar to its general adoption. Dusted on a raw surface, it produces a thin, silvery film, but causes no stinging. The author gives the following formula for its preparation, devised by Mr. J. W. England, and published in the "American Journal of Pharmacy":

Bismuth subnitrate	174 grains;
Nitric acid	3 fluidounces;
Hot water	12 "

Dissolve the bismuth salt in the acid in a porcelain capsule with the aid of heat, and add the hot water gradually, stirring after each addition; then add the solution gradually to a solution of 663 grains of potassium iodide in twenty-eight ounces of hot water, agitating well after each addition. The agitation should be continued until the decomposition is complete; then the precipitate should be filtered out at once, washed with warm water, dried, and powdered.

ANSWERS TO CORRESPONDENTS.

No. 9.—The arrangement is such that you can attend both the courses mentioned. Kaposi's clinic is announced for Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays in August, from 9 to 10 A. M.; Lustgarten's for the same days and hours in September.

No. 10.—The work is published by Messrs. P. Blakiston, Son, & Co., Philadelphia.

No. 11.—We think you are in error. Opium is regarded as an exceedingly valuable agent in the treatment of shock, especially where there is a tendency to syncope or sleeplessness. It seems to have a sustaining action quite independent of the benefit it produces by allaying pain and procuring sleep. But it should not be used if there is a tendency to coma, and care should be taken not to give repeated doses by the stomach or the rectum when there is reason to think that absorption from those organs is in abeyance, for it may accumulate and finally be absorbed all at once. It is true that an opium pill is sometimes the most efficient, but usually the safest way is to give morphine subcutaneously.

No. 12.—There is abundant testimony from the most capable and cautious observers that the treatment of phthisis by gaseous enemata is of decided efficiency as a palliative. Further than this, if the disease is not too far advanced, there seems to be good reason for regarding the method as really curative, but it would be premature to express a positive opinion to that effect. You will find important statements concerning it elsewhere in this number of the Journal.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JULY 30, 1887.

Original Communications.

THE MEDICO-LEGAL RELATIONS OF HYPNOTISM OR SYGGIGNOSCISM.[*]

By WILLIAM A. HAMMOND, M. D.

Dr. Hammond introduced the subject of hypnotism by saying that it was one that had received great attention, both here and abroad, and, indeed, the first intelligent comprehension of it was due to American thought. There was reason to assume that the ancients were also well acquainted with it. About one hundred years ago, however, Mesmer first attracted the profound attention of Europeans to it. He, however, started from an erroneous basis—namely, that there was an inherent quality or power in the person operating which accounted for the effects produced. This was a very erroneous notion. "It is one," continued the speaker, "which I am anxious you should all discard. What I am going to do is not the result of any power inherent in me, but simply in the person who is operated upon. Any of you could do it, or he himself could involuntarily pass into this condition of hypnotism. Though we probably shall all agree that I have given no complete rational explanation of the phenomena I am about to present, it is yet better that we should have erroneous notions than none at all. It is the people who have no notions whatever who die and are forgotten, while those who seek the truth will probably evolve something from their erroneous notions approximating the truth.

"The condition of hypnotism," said Dr. Hammond, "or, as I prefer to call it, syggignoscism (meaning the agreeing of one mind with another mind), is, in reality, a condition of automatism, in which acts are performed without the conscious willing of the subject. We are all more or less automata, for a great many of our acts are performed not only without, but against our will. For instance, when a person, thinking intently upon some serious subject and at the same time endeavoring to read a book, turns over leaf after leaf, his eye having carefully perused every line upon the pages, and suddenly comes to himself, as it were, and finds that he has no knowledge of what he has read, his acts in reading and turning over the leaves are automatic. Again, we have all walked the streets on our way home, thinking engrossingly upon some subject, and have found ourselves at our street-door without being conscious of having taken a single step or having seen a single thing on our way there. Such acts are automatic. They are done unconsciously and without a voluntary effort so far as we know. Cases of what we ordinarily call absence of mind are cases of automatism; and the phenomena of reverie are scarcely to be distinguished in some of their aspects from those which I shall exhibit to you this evening; and natural somnambulism is still more akin to the condition in question. We can induce in animals, by certain experiments, a state the phenomena of which are very similar to those which I shall present to you this evening.

"By removing the brain of a pigeon, we do not by any means destroy the animal, or even abolish all its mental faculties. Such a pigeon hears, sees, feels, will swallow food that is put into its mouth, but is incapable of originating any impulse. It will stand still in the attitude in which it is placed till it dies of starvation, but if a candle is moved before it, it follows it with its eyes. If it is thrown into the air, it flies. If loud noises are made near by, it is startled. If the foot is pinched, the member is withdrawn. It is to all intents and purposes an automaton.

"Now, until quite recently, it has been thought to be impossible to perform experiments of this kind to any extent upon warm-blooded animals. You have all seen some experiments of this sort upon warm-blooded animals. You have all seen a hen when its head has been cut off, and you have seen that hen stagger around the yard in a rather indeterminate way. Sometimes it will walk six or eight steps, in a staggering fashion, it is true, but nevertheless it does walk. But experiments of this kind are difficult with warm-blooded animals, because the stimulus of the heart is so soon gone that death takes place quite rapidly. But recently Kuss, of Strassburg, by means of an apparatus made for the purpose, severed the head of a rabbit in such a way as to prevent any great loss of blood. He did it by a sort of hacking movement, so that the vessels were torn in a jagged way and the blood did not flow readily, and consequently the animal did not die rapidly from loss of blood. Under these circumstances, when he attempted to rub the hair of the rabbit, it ran around the room several times in a circle in its efforts to get away. Some time ago I applied some experiments of an analogous character to a pigeon, using a cutting instrument, which, however, had not a sharp edge, and I succeeded in severing the pigeon's head without the loss of ten drops of blood. The pigeon remained stationary, but when I caught hold of it and threw it into the air it flew about the room. When I pricked the sole of its foot it drew it away.

"Similar experiments have also led to like results with other members of the animal kingdom. Maine de Biran, a French physiologist, mentions that upon one occasion a man cut off the head of a snake while it was on its way to a hole in the wall, and, notwithstanding the fact that the head was cut off, the animal continued to go toward its hole, found it, and went in. I have repeatedly, when on the plains in the West, seen rattlesnakes perform apparently determinate movements after their heads were cut off. In one instance that came to my knowledge, a rattlesnake was coiled up in the road, and a teamster came along and with his whip cut off its head. The snake remained coiled as if nothing had happened to it. It did not budge. Its head had been cut off at a single blow of the whip. The man ran up to the snake, stooped over it, and I suppose touched it in some way. Instantly the snake uncoiled itself, sprang forward, and struck him full in the forehead with its headless trunk. The man was so horrified that he fainted away.

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[*] A great deal of interest has lately been excited in France by the experiments of Charcot, Gilles de la Tourette, Azam, and others, with the subject of hypnotism. Persons put into the hypnotic state have been made to commit imaginary crimes which to them had all the elements of reality. The account here published is a stenographic report of remarks made by me and others at a meeting of the New York Medico-Legal Society, April 6, 1881. The account of my remarks and demonstrations on that occasion was not published at the time, because the society's publication committee, although the matter was in type, thought it might be misconstrued by readers. It is now published in the "New York Medical Journal" for the purpose of showing that experiments such as are now attracting such attention in Europe were made in New York several years ago.

"All these facts go to show that there is something in an animal's organization besides its brain which is capable of carrying on the functions of life. In hypnotism there is an apparent cutting off of certain portions of the brain. The basal ganglia—all that mass of gray matter at the base of the brain—may be able to act, but the higher portions of the brain appear to be—I will not say removed—but their functions so far impaired as to give rise to the very curious phenomena which you will see to-night. While these portions of the brain are not removed, their functions are certainly altered. Now, we are all conscious of our existence, we are all conscious of our identity. In these cases of hypnotism the consciousness seems to be so altered that the individual is not aware of his identity. It is the condition of double consciousness, which is beginning to attract a good deal of attention. I have had several examples of the sort; one case, which I have related elsewhere, was that of a gentleman of this city, who passed into this condition spontaneously as he was coming out of a flower shop in the lower part of the town. He went there to buy some tulip-bulbs, and that was the last he knew about himself. After that, he apparently went through the city of New York, walked the streets, went into a place on Sixth Avenue called the 'Leeds Arms,' where he played dominoes, though it was shown that he drank no liquor except one glass of ale. He then started on the cars for Easton, Pa., but, as he was unable to pay his fare, the conductor put him off the train, and he walked all the way back to New York, and found himself in French's Hotel, without being aware of anything that had taken place during the eight days that he was in this condition. He was conscious during that time, but after his return to his normal consciousness had no memory of what had occurred during that period; so that he was really the subject of double consciousness—normal consciousness and abnormal consciousness.

"Again, you recollect seeing in the newspapers here the case of a clergyman who disappeared and was absent several weeks and came back, and was unable to give any account of himself, and from the circumstances detailed there can be little doubt that he was also in the hypnotic condition, the condition of double consciousness. This condition we are able to produce in certain individuals. The proportion of persons who are subject to this state, and who are fit subjects for experiments of this kind, is about two in ten of males, and about four in ten of females.

"When you ask me what parts of the brain are involved in these phenomena of hypnotism, or syggignoscism, I shall have to confess my ignorance. I do not know. But the matter may be explained somewhat by a reference to this diagram, which will give you some idea of what I mean when I say that the superior parts of the brain are removed, and that the individual acts solely by impressions that he receives from without, and does not originate anything of his own volition. You know the brain gets ideas only from without; there is no such thing as the brain originating anything from the beginning. It will take the impressions that are furnished to it, and it may elaborate them and work them up, but it can not start anything; and an individual born without his five senses of smell, touch, taste, hearing, and sight, would be absolutely incapable of ever having an idea." (Explains the diagram.)

"Suppose you assume that an impression on this part, *A* (for instance the eye), is transmitted through that nerve, *B*, to a mass of gray matter which we will call *C*. Now, that is one of the ganglia that I spoke of as existing at the base of the brain, a mass of gray matter which is capable of perceiving. This image is presented to it and it perceives it—its size, its color, its shape, and everything of that kind. Now, suppose that the upper part of the brain, the cortex, is cut off or asleep, the lower part is capable still of transmitting an impulse downward to certain muscles of the body; and therefore a man may act in accordance with a perception without having an idea of the image which is perceived. We see that sometimes, perhaps, in cases of fright. We act from an impression made upon our sense of sight, without stopping to consider, or without having time to form an idea of what the thing is, and we will nearly kill ourselves in our efforts to escape from some supposed danger.

"Now, these instances of syggignoscism are cases where the impressions are received in the lower portions of the brain. In such cases people are capable of doing things which they would not do if they had their normal consciousness—their intellect—their full faculties, which are imparted by the cortex of the brain—the cortex of the individual who is experimenting upon them. It is his cortex which influences them, and they act in accordance with that.

"You may call it a lame explanation, and say that it does not explain it, and I do not know that it does. We do not yet know enough about the physiology of the brain itself in its normal condition to be enabled thoroughly to explain the aberrations to which the brain is subject.

"As I say, all this is scarcely proper matter for a medico-legal society, except in one relation: it is possible—and it is important that the law should take cognizance of this state. Laws are made in accordance with the advancement of science. Laws are made now to comprehend the developments of electricity in the way of telegraphs and various other things—laws that were not required a great many years ago—and doubtless, as we go on with science, we shall have new laws to cover the advancement.

"I think there is a good deal in this syggignostic condition which ought to be taken cognizance of by the legal authorities, and I think I shall show you that there is really reason why the law should take this matter up.

"There are various ways of bringing an individual into the syggignostic condition. A very simple way with this Mr. Gray here is by simply causing him to look at something intently. Mr. Gray is a gentleman in good general health. So far as I can perceive, he is simply an impressionable individual. He is a man of good character, and in his normal condition he would not do any of these things that I am going to make him do. When he was a child he was in the habit of walking in his sleep. He is twenty-six years of age. Now, a very convenient way for him to go into the state is by simply looking at something—a piece of glass or a nickel penny will answer the purpose.

"I must tell you again that it is nothing in me at all. These experiments have become somewhat familiar, and I suppose I have received fifty letters of inquiry, and I have no doubt he has too, from people all over the country as to the methods of doing this thing. One gentleman wrote to me a few days ago from California—said he had heard of some of the experiments, and he wanted to know what my fee was for enabling him to have this power over people!

"There is nothing in that at all. I could hang this bit of glass up by a string and have him look at it, and the result would be the same. It is not in the person who does it; it is in the person to whom it is done." (Holds a bit of glass before the young man's eyes, who immediately becomes syggignoscized.) "He is in that state now. He is now oblivious of what is going on about him. I will show you that he is unconscious directly. I will put him through a series of tests which will show conclusively that he is incapable of feeling. As regards the people here now, he knows nothing whatever about them." (By snapping his fingers and saying "All right!" the doctor restores the young man to consciousness.)

"Now, to show you that it is not from simply looking at something, I will strike this tuning-fork, and by his listening to it he will become hypnotic as readily as by looking at the piece of glass." (Strikes the tuning-fork, and directs the young man to listen, who becomes hypnotized as before.)

"He would never originate anything as long as he remains in that condition. He will see things just as I tell him to see them; but as long as he receives no excitation from without, as long as he depends entirely upon his own brain, he will originate nothing, and he will sit just as the pigeon does with its brain out."

(In answer to a question as to whether the young man would remain there and die of starvation.) "I don't know that he would die of starvation."

Dr. Beard, to a question as to what was the length of time that a hypnotized subject would continue in the state, replied: "All the way from one minute to two years. I have had several subjects who passed out of it with a start in about three minutes, and others have stayed in it so long that I have got tired and left them after they had been in the condition several hours."

Dr. Hammond resumes: "I am going to make him commit crime. I want to show that this is a matter that the law should take cognizance of; that an unscrupulous individual can take a subject like this and make him commit a burglary, or a forgery, or anything else that he chooses to tell him to do, and he would go and do it, while the real perpetrator remained at a distance—at his own home. I could send him down there and tell him to kill the gentleman who is sitting in that chair, and he would do it. I could tell him to commit a burglary in the house opposite, and he would go and do it.

"Now, in the first place, I am going to have him commit a burglary."

(*To Mr. Gray.*) "Do you see that stone house?" (Points to the wall.)

"Yes."

"You see that second-story window up there?"

"Yes."

"Well, in that room, at the foot of the bed, there is a chest which contains a large amount of money. I want you to go and get that money."

"Why don't you go?"

"I want you to go. You see the basement window there. You had better go through the basement and up the steps, and then get the money and bring it to me."

(The young man goes through the performance of securing the money exactly as directed, and returns with it to the doctor.)

"Do you know what you have done?"

"Yes."

"What did you do?"

"I got the money."

"Are you going to commit a burglary because a man tells you to? That money is the property of a poor woman."

"She had no business to keep it in a chest anyhow."

"What are you going to do with it?"

"I can use it just like any other money."

"Well, you have got yourself into trouble. A policeman saw you enter that house."

"You are trying to fool me. I looked up and down the street."

"There was a policeman there, and he is coming now after you. You dropped one of the notes, and there he comes with the note. Here he is. He wants to know what you were doing in that house. He wants to know whether you did not go in through that window?"

"I did not go in by any window."

"You did not go in by any window? He says he saw you."

"He has got to prove it."

"You will have to be tried for this—what will you do then? You had better get rid of the money. (He is looking around now for some place to hide that money.) I will let him work that out himself."

(The young man conceals the money in a corner and returns.)

"The policeman wants to know where that money is."

"I haven't got any money."

"He says he saw you go into that house. He says you have got it. He is going to arrest you."

"If you tell him I have got it, he might arrest me."

"Haven't you got the money now in your possession?"

"I haven't got the money—no. You may search me."

"I think you had better take that money and found a hospital with it. What do you think of that?"

"I don't want to found any hospital."

"You want the money for yourself?"

"I haven't got any money."

"Didn't you go into that house and take some money out of it?"

"No, sir, I didn't go into that house. Now what are you going to do about it?"

"The policeman found this handkerchief in the house. It has your name on it. He wants to know where you got that money. Young men like you don't go around with a hundred thousand dollars in their pocket."

"A person could lose a handkerchief, and another person might find it and put the money in it."

(*To the audience.*) "How very imperfect his reasoning must be, when he is not aware of all the circumstances. He reasons only from the limited idea which he has received, and certainly some very low point of his brain must be the starting-point of that reasoning."

(*To the young man.*) "He has the handkerchief with the money in it, and you see your name on it. Now you have got to go to jail, he says, and be tried. He has got hold of you by the arm, and he says you have got to go. There is the station-house over there. He says he is going to take you up for stealing that money." (The young man walks to the point indicated as the station-house as if led by the policeman.) "What would your friends say if they knew you were in the station-house for stealing a hundred thousand dollars?"

"I don't know what they would say. Didn't you tell me to do it?"

"That has nothing to do with it."

"You have got me in a hole, and I will get you in a hole."

"(You see he is logical to a certain extent.) There, you are released on bail, but you have got to be tried. What are you going to do at your trial?"

"Get a lawyer."

"You think a lawyer will get you out of this scrape?"

"If I got a good one he might."

"You have not money enough to pay him. How will you arrange that?"

"I will get a lawyer who won't charge anything."

"I don't know where they are—I never saw one."

"He might charge something."

"Here is the handkerchief with the money in it; you had better take it and put it into your pocket while nobody is looking."

(*To the audience.*) "Now the point I want to establish is that he is not conscious. Otherwise you may say this is all a put-up job—that he knows perfectly well what he is doing. It is a very difficult thing to show that he does not. If there is any test that you think will convince you that he is insensible, I will apply that test to him. Now I will go on talking with him, and I will heat this cauterizer and score his neck with it. On second thought, however, I will do something a little milder than that." (With a pin he pricks the young man in the neck.)

(*To the young man.*) "Are you sorry you took it?"

(*To the audience.*) "I am boring a hole in his neck and he does not feel it at all."

(*To the young man.*) "Perhaps if you were to give it to the poor it might atone for your having taken it. What do you say to that? Suppose you give it to the poor?"

"If that will get me off."

"You are more afraid of going to Sing Sing than anything else?"

"I don't want to go there—no."

"Are you really sorry you took it?"

"Yes, but I would like to have the money just the same. But if I must go to Sing Sing—I'll give it up."

"Sit down and think it over a moment or two. I have a friend who will talk to the Governor about it, and perhaps he will let you off. He says, take the money and put it back. What do you say to that?"

"I don't want any hocus-pocus business—being found there twice."

"I will keep the coast clear while you go in. I will see that there are no policemen around."

"Why not go to the house and watch?"

"I will walk around here in the street and watch."

(The young man enters the house in exactly the same way as before, puts back the money in the chest, and returns.)

"Did you put it back?"

"Yes, I put it back."

"Did you see anybody?"

"No."

"Now you (*to the audience*) understand that whatever I tell him a thing is, it is that to him. If I tell him that is a dagger (exhibiting a small piece of card), it is a dagger so far as he is concerned.

"You see (*to the young man*) that man down there at the door? That man murdered your mother. What should be done with him?"

"He ought to be arrested."

"Go and kill him. Take that dagger and creep up to him slyly and stick him in the breast."

"He will see me coming."

(The doctor requests the gentleman at the door to turn his back to the young man.)

"Now you go and stick him in the back with that dagger."

(The young man goes through the motions of creeping up to the gentleman and stabbing him twice in the back, and returns to the platform.)

"Did you finish him?"

"Yes."

"What did you do with the dagger?"

"Threw it away."

"It has your name on it."

"How can it have my name on it—you gave it to me?"

"Nevertheless, it has got your name on it; you had better go back and get it."

"I'd rather take the chances. There would be a crowd around the body, and they would see me."

"What are you going to do?"

"I don't know what to do."

"Here is a policeman who wants to know what you did to that man. Here is blood on your hand—there is blood all over your coat—your whole shirt-front is covered with blood."

"What did you want to get me into this trouble for?"

"He killed your mother."

"Well, what are you going to do about it?"

"Now the policeman has got you—now he is shaking you. He wants to know what you did that for. Now he is taking you to the station-house again—and now you are in the station-house, for murder. What are you going to do about that? You actually killed a man."

"Did he die?"

"Oh, he is dead. Do you see that angel coming down there, with the flaming sword?"

(The young man gazes upward and stares at the supposed descending angel with a horrified expression, and, finally, in a frenzy of fear, he plunges forward with a shriek and falls headlong on his face. At this point the doctor pronounces the words "All right," and restores the young man to consciousness.)

"What are you doing on the floor?

"You see (*to the audience*) there is no shamming about that. I carried the test to this extreme point to show you that he is not acting a part.

(*To the young man.*) "Do you know what you have been doing? Have you any recollection of what you have been doing?"

"No."

"What is the last thing you remember?"

"I remember looking at that piece of glass."

"Don't you recollect my putting that tuning-fork to your ear?"

"Yes, I remember that."

(*To the audience.*) "The last thing he recollects is my bringing him into that condition."

(*To the young man.*) "But as to what you have been doing, you have not the slightest idea?"

"No, sir."

"How do you feel?"

"All right. My neck feels stiff."

"Does it hurt you?"

"No, sir. It's all right except the stiffness."

"You feel all right?"

"Yes, sir."

(*To the audience.*) "Anybody can put him into that condition. A child can do it. As soon as the eyes are fixed he is in that condition. He is the quickest to go into it of anybody I have ever seen.

"Now I want to show you something a little more elaborate—something I have not fully tried on him yet. I want to see the manner in which his mind, thus limited in its powers, will proceed in the act that I am going to suggest to him." (Again places him in the syggignostic state.)

(*To the young man.*) "Are you a rich man?"

"No, sir."

"How much are you worth—what is your salary—about how much do you make a week?"

"Fifteen or twenty dollars."

"Fifteen or twenty dollars? You would like to be rich?"

"Yes, sir."

"Suppose you could make a hundred thousand dollars by simply signing another man's name—wouldn't you do it?"

"I might do it, and I might get caught, too."

"Suppose you could do it and not get caught—what then?"

"Guess I could do it."

"Well, there is a gentleman I know, whose name is Wood, and he has a lot of money in the bank. If you would write his name on this check, you would get that money."

"Won't you do it?"

"No, I want you to do it."

"Won't you tell on me?"

"No, I won't tell on you. Fill it up for $25,000. Do you think you could imitate Dr. Wood's writing if I showed you a specimen of it?"

"I don't know why I shouldn't."

"Well, there it is. Do you think you can do it?"

"Yes, but I want some paper to practice on first."

"Just sit down there, and I will give you some paper. Now you can try it and see what you can do with it.

"Now, while he is doing that, I will burn his neck with this iron. I do not think you will see any change in his features." (Dr. Hammond presses the red-hot iron against the back of the subject's neck and burns him, but no sign of pain is exhibited.)

Question by one of the audience: "Is he troubled in his ordinary business, Doctor, with going into this state?"

Dr. HAMMOND: "No, he never goes into it spontaneously.

"I think it is worth while to call attention to the fact that such a condition exists, and how easy it is to get such a person as this young man into the condition and make him perpetrate crimes. It seems to me that it is a matter that really requires legislative action. This would be a new crime, arisen in consequence of the advancement of science. We now know that we can make people do these things. It seems to me that if the law does not take some notice of the matter, after a while we shall find a class of sharpers who know how to use this influence, and they will employ the innocent as instruments of their unlawful schemes, while they, the real perpetrators, remain invisible to the eye of the law and secure from detection."

Remark by one of the audience: "The difficulty, Doctor, would be about the proof."

Dr. HAMMOND: "I am not lawyer enough to know about that; but I think the law is sufficiently comprehensive to include a case of this kind."

Mr. J. F. MILLER: "If what you do here is true, you are the only man that is guilty."

Dr. HAMMOND: "That is what I mean. He is not responsible at all. There ought to be some law for punishing an offense of this kind."

Mr. MILLER: "There is law enough for that."

The question is asked as to the facility with which different subjects go into this state.

Dr. **Hammond**: "One who has never been in the condition before goes into it with much more difficulty than at subsequent times."

(The experiment is tried to hypnotize one or two gentlemen, but unsuccessfully.)

The opinion of Dr. Beard is asked as to the proportion of subjects to the population, who replies that there is no proportion known. It depends entirely upon the class that you take them from.

Question: "How is it among your own patients, Doctor?"

Dr. **Beard**: "I never experiment on my patients—only on outsiders."

Q. "Does the young man know he is liable to these states?"

Dr. **Hammond**: "He knows it when he is awake. He does not know it now." (*To the young man.*) "Where are you?"

"I am here!"

"What's your name?"

"That's a strange question to ask a man!"

"I am General Garfield, the President of the United States."

"I don't care if you are. That is no reason why you should go around asking people's names."

(Asks him several questions—what street he is in, etc.)

Dr. **Hammond**: "It is not pretended that all previous impressions of a man in this condition fade out. He knows this is Thirty-first Street, because he knows it was the place he was to come to."

One of the audience requests Dr. Hammond to ask him what he has been doing to-day.

Dr. **Hammond**: "What have you been doing to-day?"

"I don't know."

By one of the audience: "What did Dr. Hammond tell you to come here for?"

"To see some experiments. I am here, and I have not seen any."

Dr. **Hammond**: "He has a general idea that he came here for some such purpose; but of what has occurred here since he came, he has not the slightest knowledge. Now you may say that he falsifies; but I will apply any test that you think proper to convince you that he is not deceiving."

Dr. J. C. **Hannan**: "Would he reply to anybody else?"

Dr. **Hammond**: "Oh, yes!"

Dr. **Hannan**: "Could you ask him if he has any ideas of morality or honesty while he is in that condition? You say the organs in the upper part of the brain are entirely inoperative at the time. Suppose you ask him something in reference to the higher ideas—for instance, is it a crime to kill a man, or to take a man's character?"

Dr. **Hammond**: "Oh, he will say yes."

Dr. **Hannan**: "I would like to ask you whether you have any test that you think is decisive in the matter?"

Dr. **Hammond**: "I do not know what test you may require to convince you that he is not committing a fraud upon you."

(At this point there was some discussion as to the relative severity of various tests—cauterizing, pinching the skin with pinchers, pricking with a needle, etc.)

Dr. **Beard** remarked that it was impossible to demonstrate the man's unconsciousness in so short a time.

Dr. **Hammond**: "I think you can demonstrate it as accurately as you can anything else. You apply the ordinary tests of sensibility to a man; if he does not respond to them, you are bound to suppose that he does not feel."

Dr. **Beard** suggested that a better test with the cautery than that tried was to press it on, and hold it on. But he presumed the subject would object to this.

Dr. **Birdsall**: "I do not think he can be tested satisfactorily. I do not think any test can be applied that will be satisfactory."

A motion is made that the subject be taken up at the next meeting.

Dr. **Hammond**: "I hope that suggestion will prevail."

Mr. **Yeaman**: "In seconding the further discussion of this subject, I wish to add a further reason why the legal side of the house desires more light on this subject in its supposed legal aspects, as suggested by Professor Hammond. When Professor Hammond suggested the possibility of crime being committed by a hypnotized person used as the instrument of the instigator of the crime, it was answered by several members of the bar present, that the law is ample as it now stands for that purpose. Now that is true within certain bounds. Certainly it is well established law that what a man does by another he does himself, and if I command my instrument to go and murder Dr. Hammond, I am the guilty man as well as he who strikes the blow. But as far as the legal, or the medico-legal, aspects of this matter are concerned, the question to be determined is, first, whether this condition is a fact—a fact established and admitted by scientific men; next, whether the law would recognize it as such; would judges and juries recognize it as such; or must they depend on what is called expert testimony? Now, if they depend on that, it is very evident from what we have seen this evening that they would be immensely troubled ever to come to a conclusion. But if this thing can be established as a scientific fact, then, as has been suggested, its medico-legal aspect is an important one, and therefore I think that it is eminently proper that the matter should be further investigated, if need be by further experiment as well as by further discussion."

Dr. **Beard**: "I will only say this in answer to the gentleman who has just sat down—that the medico-legal relations of this subject are of the most profound interest, and are going to assume an importance that we do not dream of at present. I think Dr. Hammond agrees with me on this point. There are various persons here whose views on this subject would be valuable to the society, and I hope that they will be heard even if I say nothing, and I should like to have the subject taken up. I read a paper six or seven years ago before this society on this subject, and we all of us know a good deal more about it now than we did then. Several times this subject has been brought into court within a few years, in Europe and in this country, and it is time the society thoroughly discussed it. I was very glad that Dr. Hammond brought this paper up."

The motion to discuss the subject at the next meeting was put and carried.

Dr. **Birdsall**: "I should like to make one statement. Dr. Hammond asks me the evidence that I would require to test this matter. I would not accept the evidence of experiments that I could repeat on myself—experiments that I could repeat voluntarily. Such tests would not satisfy me of the unconsciousness of the individual. I should want further proof than that."

Dr. **Hammond**: "Couldn't you suggest what?"

Dr. **Birdsall**: "I do not know of any. I have been interested in this subject, and have been endeavoring to find a true test—for I believe there is a true hypnotism. But I have failed to find any such test; consequently, I maintain that we have no proof that this young man is in the hypnotic condition. I do not know whether Dr. Hammond has been experimenting upon this young man, or whether this young man has been experimenting upon Dr. Hammond!"

Dr. **Hammond**: "People who are educated, and who are accustomed to direct others, are not so easily rendered hypnotic as those who have always occupied subordinate positions. If you will find some person who fulfills these conditions, we will see what we can do with him. If a member of the society will bring such a person here, I think we can put him into the hypnotic state. I do not believe these things myself unless I see them. But I will take people who are entirely above suspicion, and they will go into this state and do just as this man does."

A CLINICAL STUDY OF NEURALGIAS, AND OF THE ORIGIN OF REFLEX OR TRANSFERRED PAINS.

By C. L. DANA, M. D.

(*Concluded from page 91.*)

Cervico-occipital and Occipito-frontal Neuralgias.—Total cases, 18.

Sex.—Male, 4; female, 14.

Cause.—Sequel to cerebro-spinal meningitis, 2; hysteria, neurasthenia, 6; anæmia and miscarriages, 1; neurasthenic and rheumatic, 3; syphilis, 2.

Season.—Autumn and spring, 8; winter and summer, 3.

Age.—Three fourths between the ages of 20 and 36; none below 20.

There are three types of neuralgic pains in the four upper cervico-occipital nerves.

I. One of these is the migrainous, and has been already described.

II. The second type is one of typical neuralgia with tender points, and a continuous course lasting for days or weeks. It is unilateral, and has the characters ordinarily described in the text-books. I have now a patient who has this true neuralgia with occasionally pseudo-migrainous attacks. The pains sometimes reach the character and intensity of true tics.

III. The third type is one found in hysteria and spinal irritation. In this disorder the pain is more bilateral or central, or perhaps shifting, and it is especially characterized by a sharp boring pain just below the occiput. With it there may be evidences of cerebral congestion or anæmia, with vertigo and faintness, but not vomiting. It is one of the hysterical neuralgias and indicates cervico-spinal irritation. The boring pain is almost pathognomonic.

It is a noticeable fact that the four upper cervical nerves supplying motion and sensation to the back and base of the skull are attacked by three painful neuroses just as with the fifth nerve, viz.: migrainous pains, ordinary neuralgic tics, hysterical neuralgias (clavus).

Lumbar Neuralgias.—While lumbar pains of muscular and reflex origin are as common as humanity, true dorso-lumbar neuralgias are comparatively rare. I have notes of only eleven cases.

Dorso-lumbar neuralgias affect either the upper and short branches or the lower and longer branches of the lumbar plexus.

I. In the former case we have pains in the small of the back, the upper part of the buttocks, the neighborhood of the crest of the ilium, and, more rarely, in the hypogastrium, inguinal region, and scrotum or labia.

These pains form the upper lumbar or lumbo-abdominal neuralgias. They are affections of the branches of the first and second lumbar nerves.

Lumbo-abdominal neuralgias occur usually in women after the thirtieth year. They come on late in life like sciatica.

It is upon the upper half of the lumbar plexus also that the lumbo-abdominal pains are reflected which result from uterine displacements or from other irritations of the pelvic organs.

II. The neuralgias of the lower branches of the lumbar plexus produce pains in the outer, anterior, and inner part of the thigh, external cutaneous nerve, genito-crural and anterior crural nerves, the front of the knee, and inner part of the leg (crural nerve and obturator nerve). These form what are generally known as femoral or crural neuralgias. True neuralgias of these branches are very rare, according to both Anstie and Valleix; but here again reflex or transferred pains from the pelvic organs are not infrequently felt. Crural neuralgia is also sometimes felt in connection with sciatica.

Painful Thigh.—It appears to me that crural neuralgias of a certain type are not so very uncommon. Certainly I have met with several cases of what might be called, in a general way, "painful thigh." The patients in age and history are like those suffering from sciatica. They complain of pain in the front of the knee and the anterior and outer parts of the thigh, but have no pain posteriorly, and none below the knee. The internal branches of the anterior crural nerve do not seem to be affected, while the middle and external cutaneous branches and the genito-crural nerve are involved. In one case I observed anæsthesia of the skin.

These cases do not correspond with classical descriptions of crural neuralgia, and they are sometimes regarded as irregular forms of sciatica, because of the diffused pain and stiffness of the thigh. They should be treated in the same way as sciaticas.

The upper lumbar neuralgias may be mistaken for lumbago or hip-joint disease. The lower lumbar neuralgias often present a general resemblance to irregular sciaticas. It should be remembered that neuralgic pains in the thigh alone are generally to be referred to a lumbar plexus.

Sciatica.—The total number of sciaticas available for statistical purposes is 73; 25 of these were in females, 48 in males, giving a proportion of 1 to 2. This gives a larger proportion to women than the German statistics of Erb and Eulenburg (65 to 17), while it gives a smaller proportion than the French statistics of Valleix, 72 to 52. The facts regarding age and season are summarized below, and show a rather larger number of cases in early life than is usually believed to occur, and also a decided preponderance of the disease in the autumn.

Age.—Fifteen to 25, 9; 25 to 35, 17; 35 to 45, 23; 45 to 55, 15; 55 to 65, 7; above 65, 2. As there are twice as many people living between 15 and 35 as between 35 and 65, and only 26 sciaticas to 47, sciatica is relatively nearly four times as frequent between the ages of 35 and 65. Winter, 21; spring, 9; summer, 8; autumn, 24.

As to the causes: Twelve gave a history of exposure and muscular strain. Ten gave a muscular rheumatic history. Only one had ever had acute rheumatism. Nine gave a distinctly neurotic history, having previously had other forms of neuralgia (3), epilepsy (2), or hysteria (1).

In 3 there was a phthisical taint, in 1 sexual irritation, in 1 probably malaria, in 2 syphilis, and in 1 constipation with piles and a very sedentary life.

Thus it appears that the age of forty and the male sex, and a tendency to muscular rheumatism or a neurotic, especially a lithæmic, constitution, prepare the way for sciatica, and that exposure and muscular strain or some nervous irritation precipitate it.

In many cases one gets every evidence of there being a neuritis—such as anæsthetic patches, coldness of the limbs, atrophy, and even slight partial degenerative reactions in the muscles.

THE ORIGIN OF "REFLEX" OR TRANSFERRED NEURALGIAS AND PAINS.—No point connected with the clinical history of neuralgias is of more interest than that of their so-called "reflex" origin. The production of migraine has been attributed, as we have seen, to the stomach and liver, to the eye, the tonsils, and the nose. Digital, plantar, cardiac, intercostal, and, in fact, all the neuralgias have been attributed to extrinsic causes. So much has appeared in literature regarding the effects of such remote irritation that the importance of this influence has perhaps become exaggerated. At the same time the subject is one deserving of further and persistent study until its present many obscurities are removed.

In this study it is to be remembered that the term reflex used here is not technically a correct one. An irritation in the stomach may cause a pain which is felt in the forehead. The impulse, starting in the stomach nerves, is conveyed to the cortex of the brain, and this is felt as a sensation excited by the trigeminal nerve. It is a transferred sensation, not a reflex one, since the impulse is afferent only, and the outward reference of the pain is purely psychical.

Reflex pains are, therefore, really "transferred pains" as a rule. In some cases it may be, however, that irritations provoke reflex vaso-motor changes in remote parts, and the anæmia or congestion thus produced causes pain. There may be, therefore, "indirectly produced reflex pains." The term reflex pain is so widely used that I can not attempt to discard it. I use it, however, with the explanation here given.

From a study of many cases of my own for the several years in which my attention has been directed to this subject, from a study of the very meager literature bearing on it, and from personal inquiry among gentlemen who have had large experience in various special fields, I am able to collect the following facts regarding the various organs, the viscera, and their relation to transferred or reflex pains:

With regard to the Eye.—In the accurate determination of reflex pains the ophthalmologists have made much progress. I am greatly indebted to my friend, Dr. William O. Moore, for furnishing me, in an admirably succinct form, the results of his studies and experience in this direction. In general terms, the following statements may be accepted:

Reflex pains are produced by asthenopia, of which there are four types, as follows:

Asthenopia.—One, refractive; 2, accommodative; 3, muscular; 4, neurasthenic.

The pain in No. 1 (refractive asthenopia) is usually of a dull, heavy character, and is felt in the forehead and along the supra-orbital branches after the eyes have been used for some time.

In No. 2 (accommodative) the pain is felt in the eye, and is one of fatigue. It is of a dull character. This pain, however, is not reflex.

In No. 3 (muscular) there is a sense of pain or, rather, of drawing, often referred to the back of the orbit, sometimes to the back of the head.

In No. 4 (neurasthenic) the sensations are much the same as in No. 3.

In addition, it appears to be established that refractive asthenopia in one eye may give rise to migraine.

The view that nearly all migraines are due to refractive errors, or to imperfection in the muscular apparatus of the eye, is certainly, in my experience, incorrect. It is well to remember that, while eye troubles may cause neuralgia, so, on the other hand, neuralgias of the fifth may cause eye troubles—such as blepharospasm, mydriasis, myosis, and asthenopia (Faucheron, "Rec. d'ophthal.," March, 1881). Occasionally eye irritation causes occipital or fronto-occipital pain, but this does not seem to be the rule. Iritis may cause pain felt over one half of the cranium, like a migraine.

Chronic diseases of the ear have been known to produce trigeminal neuralgias in very rare instances. It is more often that irritations of the maxillary branches of the fifth cause otalgia. My friend, Dr. Sexton, informs me that, as the result of examining the records in a large number of cases, he could not formulate any rule as to reflex pains of aural origin—*i. e.*, from chronic aural disease. Dr. E. Legal ("Deut. Arch. f. klin. Med.," xl, 2, p. 201) says that patients with pains in the occipital or temporal region should be examined for pharyngeal or middle-ear trouble. He reports ten cases in which, by using Politzer's method, or by catheterizing the tubes and treating the throat, the pains were relieved.

Dental caries may cause severe and intractable trigeminal neuralgia. The relation between the two was first studied by Neucourt ("Arch. gén. de méd.," June, 1849), who gave some striking examples. Lauder Brunton ("Lectures on Diseases of the Stomach") has also studied the matter in reference to localization, and believes that reflex pain from dental caries is usually felt in the temple, or, more specifically, a decayed molar in the lower jaw gives a temporal or occipital headache, a decayed molar in the upper jaw a temporal headache farther forward. Decayed canine or incisor teeth are likely to cause frontal or vertical headache. Such pains may be accompanied by sympathetic dilatation of the pupil.

The results of nasal and pharyngeal irritation have been fully discussed in late years. It seems to be well established that there are sensitive areas in the nose, usually in the region of the inferior turbinated bone and its cavernous tissue, which may give rise to frontal headache, migraine, neuralgia of the larynx, and of the tongue (B. Robinson, "Med. Record," Jan. 30, 1886). Chronic pharyngitis and amygdalitis may cause migraine (Lorent, A. Jacobi, "Med. Record," Jan. 30, 1886), and the same trouble, according to Trautmann, is produced by chronic or subacute inflammation of the pharyngeal tonsil.

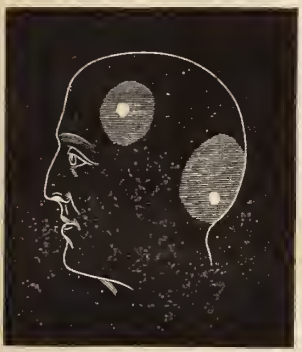


Diagram showing the seat of pain in megrim or occipital headache depending on decayed teeth or defects of the eyes. The shaded area shows the seat of the pain; the spot in each area indicates the seat of tenderness on pressure.—Brunton.

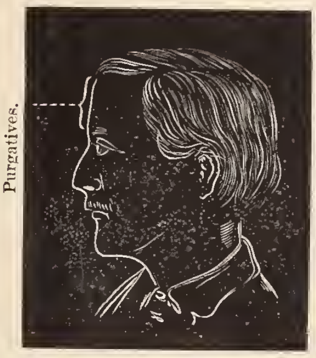
We have one authority (Hack) curing 240 cases of hemicrania by cauterizing the inferior turbinated bone; another, Trautmann, curing 85 out of 87 cases of the same disease by destroying the pharyngeal tonsil. Lauder Brunton attributes migraine in some cases to the reflex effect of dental caries ("Dis. of Digestion," p. 84).

As others have reported almost equally extraordinary results from treating the eyes, it is plain that there are some errors here not alone of refraction, but also of observation or deduction. The inference is that almost any active surgical interference in the region of the head will cure 90 per cent. of migraines, or of so-called migraines. I am forced to the conclusion that the diagnosis in many of these cases was incorrectly made, and that in others the patients were not followed up for a very long time. We know that migrainous patients will sometimes go for months without any attack of pain.

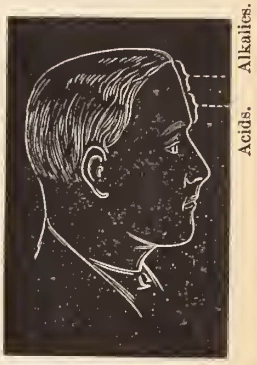
According to Dr. C. C. Benson ("Medical World"), but on what authority I do not know, "when pain is located below the superciliary ridges, including upper eyelids, to the external angular processes on either side, the nasal passages and buccal cavity will be the seats of disturbance."

Irritations from the stomach cause reflexly a large variety of pains. It is not possible to decide always whether these pains are reflex or are due to vaso-motor disturbances, or the circulation of morbid products in the blood, as in cases of fermentative dyspepsia and of constipation associated with dyspepsia.

We all know that the simple ingestion of a glass of ice-water will cause a sharp frontal or temporal pain. Lauder Brunton finds that constipation and presumable intestinal irritation cause a diffuse frontal headache over the whole brow. When there is no constipation and the condition is one of gastric irritation, the pain is either just above the eyes, or more rarely in the occiput (when it will be relieved by acids), or just at the roots of the hair (when it will be relieved by alkalies). (*Loc. cit.*)



Showing the position of the frontal headache which in cases of constipation is relieved by salines.—Brunton.



Showing the position of the frontal headaches relieved by acids and alkalies in the absence of constipation. The lower is relieved by acids, the upper by alkalies before meals. The lower one also indicates the occasional position of headache caused by straining the eyes.—Brunton.

Gastric irritation, according to Lange, more often causes thoracic pains and pains in the arms, but especially pains in the epigastrium and hypochondrium. Left-sided pains, resembling intercostal neuralgia, have been thought to be due sometimes to stomach disorder. Leoni, from his studies of cases, maintained that dyspepsia was sometimes a cause of intercostal neuralgia. (Axenfeld and Huchard, "Traité des névroses.") Revillout ("Gaz. des hôp.," 1873) makes the same statement. Desnos reports a case of intercostal neuralgia (Desnos, "Dict. de méd. et chirurg. prat.") caused by ulcer of the stomach. Besides this, both functional and organic diseases of the stomach produce transferred pains referred to the cardiac plexus, producing symptoms resembling angina pectoris.

I have met with a number of cases of neurotic, anæmic young women who complained of attacks of heart-pain and respiratory oppression resembling angina; and the clinical picture is so distinct that I think we may speak of a "pseudo-angina pectoris of gastric origin." Dr. Long Fox ("Dis-cases of the Sympathetic") reports the case of the distinguished surgeon, Mr. Hilton, who was attacked three years before his death with severe angina pectoris. After suffering intensely from this for several months, the pain gradually wore away, and the symptoms of cancer of the stomach developed. Dr. Moxon (*loc. cit.*) speaks of a heartache of gastric origin, and its occurrence is no doubt familiar to all.

The scapular or shoulder pains in dyspepsia, and the pains felt between the scapulæ, due to the involvement of the posterior branches of the second to the sixth intercostal nerves, are common phenomena familiar to all.

Gastric irritations must have a certain severity to be felt as pain in the stomach or epigastrium, and in these cases there is doubtless, as a rule, some muscular spasm of the stomach-walls.

The milder irritations produced by gas, undigested food, excess of acid, etc., seem to be reflected most often upon the upper intercostal nerves or the cardiac nerves, vagal or sympathetic. The headaches in gastric irritation so often involve some toxic element that we can not speak of their origin with much positiveness.

The stomach and intestines are probably the most frequent cause of transferred pains; after this I would place the uterus and its appendages, and next the eye or heart. Lange considers that the heart ranks second.

In kidney disease neuralgic pains may be felt in the lumbar region, radiating forward to the lower abdomen and genitals—in other words, a lumbo-abdominal neuralgia is produced. In a case of renal colic I have observed the pain to be repeatedly centered about the anterior superior crest of the ilium.

Pains started up by the gall-bladder are felt in the right side of the thorax and right arm, while it is one of the aphorisms of medicine that disorders of the liver may cause pain in the right shoulder. Bilious headaches cured by a dose of calomel I have observed to be located sometimes in the vertex and occiput.

In abscess of the spleen there is a pain felt in the left shoulder (Grotonelli, Wardell).

I am unable to make any very definite statements as to what are the most frequent and characteristic neuralgias produced by pelvic disorders. In answer to letters of inquiry on the subject, my friends, Dr. A. J. C. Skene and Dr. H. T. Hanks, write that they are unable to formulate any rule. Vertical headaches, infra-mammary pains, and lumbo-abdominal pains, are all very frequent. Valleix thought that headaches were most frequently caused by uterine trouble. The vertex pain so often spoken and written of as a pelvic reflex is often, in my experience, an indication simply of anæmia. In this view I find I am corroborated by Dr. Lauder Brunton, in the work cited.

Lange says (*loc. cit.*) that in uterine troubles the reflex pains occur oftenest in the form of arthralgias. I have had a patient suffering with painful spasms of the bladder who had intense pain in the palms of the hands every time she had a bladder spasm ("Med. Record," July 25, 1885); another patient, while pregnant, suffered from digital neuralgia, and in a third case reported by myself, a patient of Dr. Nilsen's, suffering from ovarian prolapse, had severe and continuous neuralgic pains in the wrist. Studies of the cause of reflex pains in the feet show that they may be referred in almost all cases to irritation of the genito-urinary tract, and occur more often in the male ("Med. Record," July 25, 1885). The pains of uterine disorder, when reflected down, appear rarely to go below the knee; in other words, they affect the lower branches of the lumbar plexus, and not the sacral nerves.

It has been stated that pain in the heels may be caused by ovarian abscess. In my experience, such pains are due to lithæmic and neurasthenic conditions, and will be relieved by remedies addressed to such states. It may be said in general, then, that pelvic irritations are felt most frequently in the upper and short branches of the lumbar plexus, next perhaps in the intercostal nerves and upper cervical nerves, then in the trigeminus, and last in the hands and feet.

Anæmic headache.—Brunton.

Lesions in the lung itself cause reflex pains in the form of intercostal neuralgia. Slight pulmonary congestions, such as occur at the very onset of phthisis, may cause intercostal neuralgia, and Anstie speaks of the value of these pains as warnings of the approach of phthisical disease. Apart from these neuralgias, the lung is very rarely an excitant of reflex pains, perhaps because its nerve-supply is small, aside from the sensory fibers of the vagus. Further study, however, may show that lung irritation may cause some of the painful affections of the larynx, tongue, or throat.

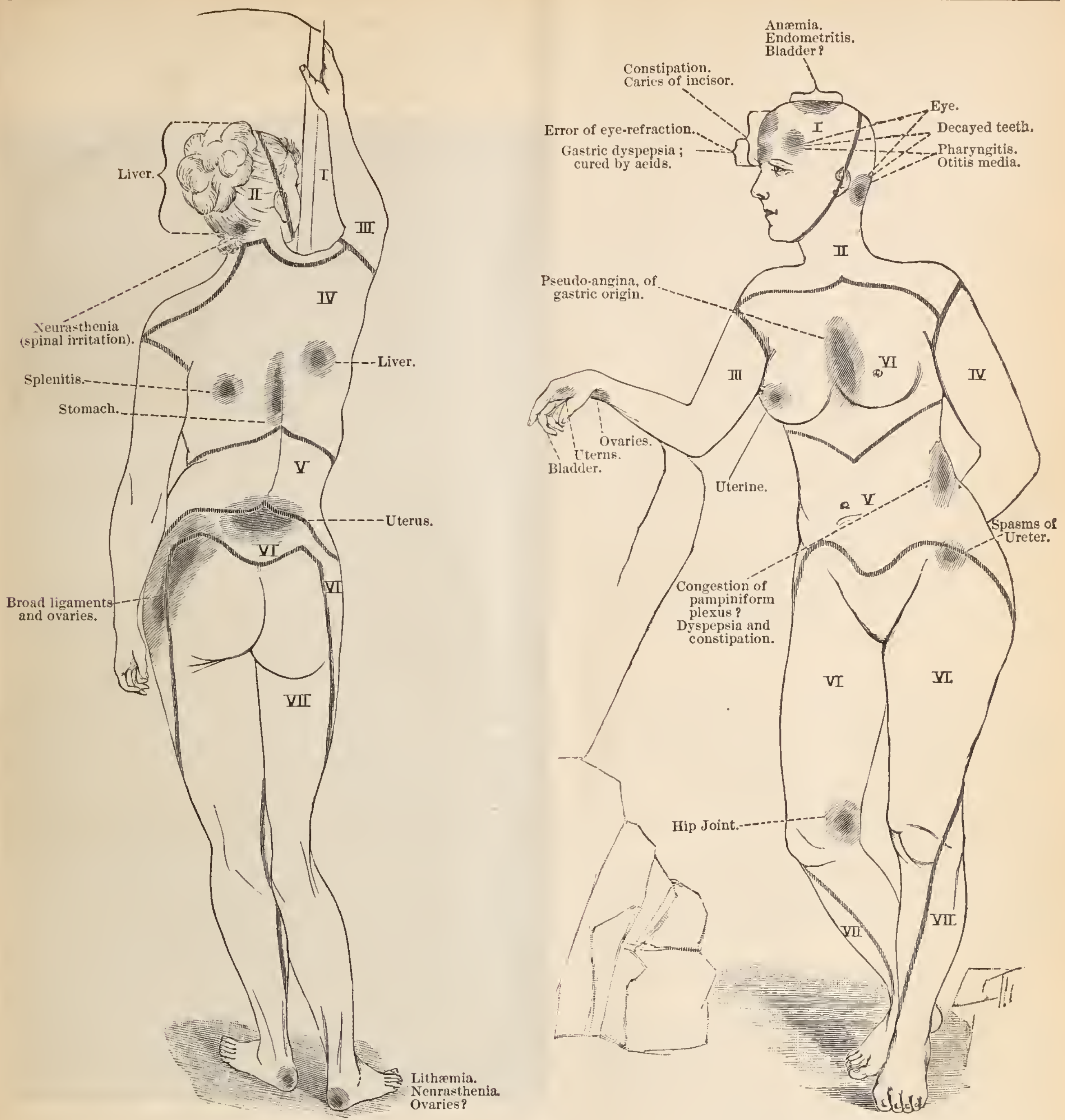
The question now arises whether, with these various facts before us, any general statements can be made with regard to the production of transferred pains. If we study them in connection with the anatomical arrangements of the cerebro-spinal and so-called sympathetic system, it is possible that the diffusion and transference of pain, though in a "mighty maze," will not appear entirely without a plan.

The cerebro-spinal nerves are sent out from their centers in divisions or companies of seven, and each company acts together and serves a common definite physiological purpose. These divisions are:

1. The ocular motor nerves, the trifacial, and the seventh—which supply motion and feeling to the face and anterior scalp. The remaining cranial nerves supply internal parts.

2. The four upper cervical nerves forming the cervical plexus. This leash of nerves supplies motion and sensation to the neck and occiput, and controls the movements of the cephalic extremity. It is in close connection with the trifacial, both at its origin and periphery, both directly and *via* the sympathetic. It is subjected to much the same disturbances, and may be looked upon as physiologically almost a part of the first set—*i. e.*, of the common sensori-motor cranial nerves.

3. The third leash of nerves is composed of the last four cervical and first dorsal. They form the brachial



	Strands of cerebro-spinal nerves.	Distribution.	Associated ganglia of sympathetic.	Main distribution.
Area I.........	Trigeminus, facial, etc.	Face and its orifices, anterior scalp.	4 cerebral.	Head.
Area II.........	Upper 4 cervical.	Occipital region, neck.	1st cervical.	Head (slightly to heart).
Area III........	Lower 4 cervical and 1st dorsal.	Upper extremities.	2d and 3d cervical, 1st dorsal.	Heart.
Area IV.........	Upper 6 dorsal.	Thoracic wall.	1st to 6th dorsal.	Lungs.
Area V.........	Lower 6 dorsal except last.	Abdominal wall, upper lumbar, upper lateral thigh surface.	5th to 12th dorsal.	Abdominal viscera, testes, ovary, fundus uteri *via* renal plexus.
Area VI..... ...	12th dorsal, 4 lumbar.	Lumbar region, upper gluteal, anterior and inner thigh and knee.	1st to 4th lumbar.	Pelvic organs.
Area VII...	5th lumbar and 5 sacral.	Lower gluteal, posterior thigh, leg.	1st to 5th sacral.	To pelvic organs, the sympathetic supply being small.

Diagram showing the distribution of the seven cerebro-spinal strands of nerves, and the location of transferred pains and neuralgia.

plexus, and furnish motion and sensation to the upper extremities.

4. The fourth set includes the dorsal nerves from the second to the sixth. This supplies the chest-wall, including the pleura, and with the sympathetic the lungs beneath.

5. The fifth set consists of the lower seventh to eleventh intercostals, which supply motion and sensation to the abdominal walls, to the lower dorsal muscles, and the skin over them.

6. The sixth set consists of the first four lumbar nerves

with part of the twelfth dorsal, which is really a lumbar nerve. This supplies motion and sensation to, in general words, the hip-girdle—*i. e.*, the muscles (erector spinæ, etc.) of the loins, those of the anterior, inner, and outer portion of the thigh, and the skin over these regions, extending down to the upper half of the buttock and to the groin, scrotum, and labia. It is the lumbar plexus which furnishes most of this supply.

7. The seventh and last set consists of the sacral nerves, whose anterior branches (those of the first four, with the lumbo-sacral cord) form the sacral plexus. This supplies the external genitals of the male, the clitoris and part of the vagina, the perinæum and external sphincter and the lower buttocks, and the posterior part of the thigh and leg, except its inner side. In a general way we may state that the lower portion gives motion and sensation to the legs and posterior thigh (the sciatic); the upper portion to the genitals and the gluteal, perineal, and anal region (sup. gluteal, small sciatic, pudic).*

Now each of these seven sets of nerves is in intimate connection by two branches with the sympathetic ganglia, and through these with the viscera of the different cavities.† The accompanying diagram shows better than any description what this relation is.

I. The first two leashes of nerves are connected most intimately with the four cerebral sympathetic ganglia (ophthalmic, otic, submaxillary, spheno-palatine) and with the upper cervical ganglion.

We can understand how irritations in the cranial cavity may be reflected almost indifferently upon the trigeminal or upper cervical nerves.

II. The third leash of nerves to the upper extremity is connected with the three cervical and first intercostal ganglia, all of which go to make up the cardiac nerves.

Hence irritations of the heart are reflected so often in the shoulder and down the arm.

III. *The first six* nerves of the thoracic wall are connected with the corresponding sympathetic ganglia which supply the lung tissue, and this anatomical fact may explain why in slight pulmonary congestions pain may be referred to the intercostal nerves.

IV. The fifth leash of nerves, fifth to the eleventh intercostal, is connected with the sympathetic ganglia, which supply nerves to the abdominal viscera *via* the splanchnic nerves. The great splanchnic supplies all the abdominal viscera, including the visceral serous membranes, except the kidneys. These are more largely supplied by the small splanchnic which arises from the eleventh and twelfth thoracic ganglia. The renal plexus in turn sends branches to the spermatic cord, testes, ovary, and fundus uteri, so that those parts of the pelvic organs are especially connected with the lower dorsal nerves; hence irritations of ovary, testes, cord, part of the uterus and kidneys, are often reflected as pains in the region of the kidneys and in the groins. It is, perhaps, over this arc that the low-down one-sided pains so often felt over the ninth to twelfth ribs originate.

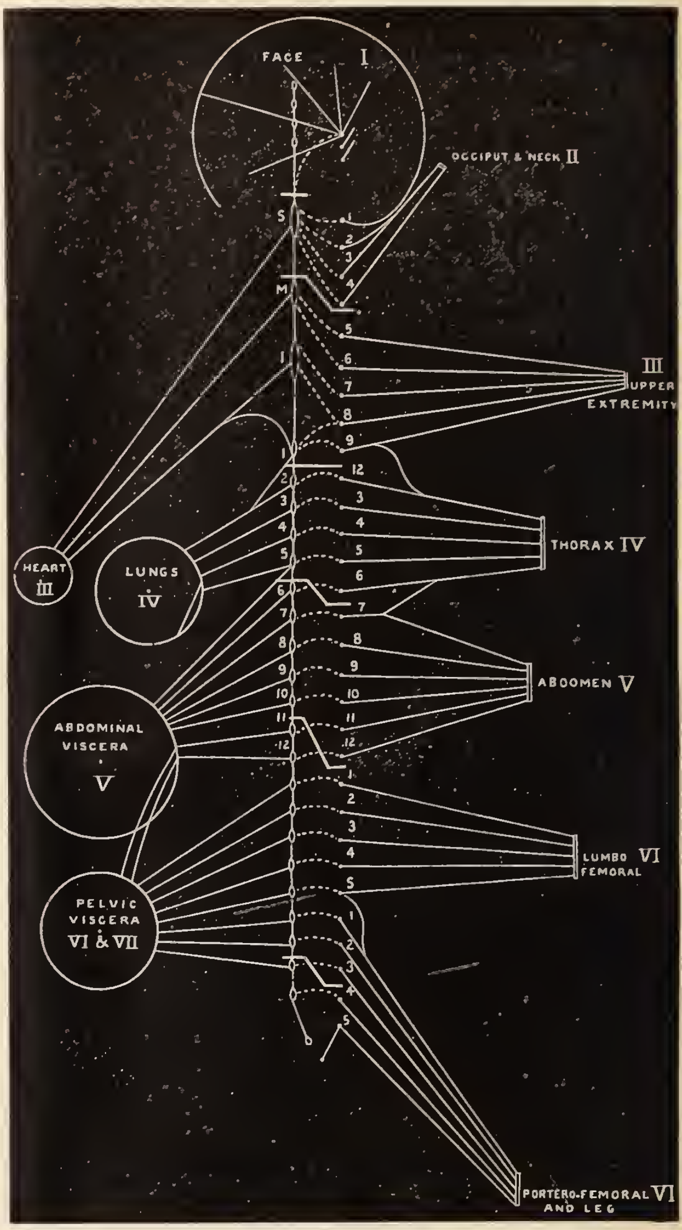


Chart showing the different levels of the cerebro-spinal and sympathetic nerve-supply. Cerebro-spinal nerves represented on the right side; sympathetic nerves on the left side.

V. The lumbar strand of nerves is connected with the lumbar ganglia and *via* the aortic plexus with the descending colon, sigmoid flexure, and upper part of the rectum; through the hypogastric plexus with the pelvic organs, which it joins the sacral nerves and ganglia in supplying.

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* The sides of the body and both upper and lower extremities, except a portion of the legs, are supplied by lateral branches of the spinal nerves; the back, from occiput to iliac crest, by dorsal branches.

† Gaskill's recent studies of the visceral nerves show what I have taught for several years to my classes—viz., that the sympathetic nervous system is in reality only an outflow from the cerebro-spinal. He also maintains that it is made up of fibers of a peculiarly small size which pass out through the roots to the viscera. The outflow of these visceral or sympathetic nerves takes place in the upper cervical region, *via* the glosso-pharyngeal and vagus; in the dorsal region, from the second dorsal to the second lumbar in the dog; in the sacral region, *via* the second and third sacral nerves. Gaskill's investigations so far cover only the subject of efferent nerves (probably vaso-motor) in dogs, and can not be yet applied to our present subject.

VI. The genital organs (vagina, cervix uteri, penis, prostate), except the testes and ovaries, are in close connection with the sacral strand of nerves (the seventh); the other pelvic viscera are more abundantly supplied by the lumbar and lower dorsal strands. Hence we find sciaticas and podalgia, and reflex pains throughout the lower extremity in urethral irritations, rarely in irritations of the testes, ovary, or higher parts of the pelvis. These latter cause more often lumbo-abdominal neuralgias.

In attempting to explain the reflex pains from the viscera, I am led to the belief that the pneumogastric nerve must be left out of account as a direct factor. The mass of the sympathetic nerves to the sensitive thoracic, abdominal, and pelvic viscera, are made up of white, medullated nerves that come directly from the cord. These nerves carry sensory fibers, and their excitation is painful (Ludwig, O. Nasse).

Whether it be the heart, stomach, or uterus, therefore, irritations that excite pain more probably pass up to the brain *via* the spinal nerves, their posterior roots, and the spinal cord. Having, however, to travel through two or three sets of ganglia, it is easy to understand how they may become diffused, and travel up paths belonging to another strand of nerves, and so be referred by the mind to a place remote from their origin.

THE STUDY OF CONSUMPTION AMONG THE INDIANS.

A REPLY TO DR. THOMAS J. MAYS, OF PHILADELPHIA.

By WASHINGTON MATTHEWS, M. D.,
U. S. ARMY.

In the "New York Medical Journal" for May 7, 1887, appears an article entitled "Does Pulmonary Consumption tend to exterminate the American Indian?" by Thomas J. Mays, M. D., of Philadelphia, which purports to be a refutation of a paper of mine entitled "Consumption among the Indians," published in this journal in the issue of January 1, 1887.

It would occupy too much valuable space to review all the items in Dr. Mays's paper which invite criticism. It will only be necessary to examine a few of the more important in order to show the nature of the work and allow the reader to estimate its value.

Dr. Mays objects to the system I pursue in endeavoring to estimate the prevalence of consumption among the Indians, and announces as a substitute for it a method of his own in the following words: "Hence more reliable results can be obtained when the number of deaths from any given disease is compared with the whole population or class among which it prevails; this latter method is the one adopted here." This method would undoubtedly be the best if it were possible to obtain data to sustain it. It is a method which in the beginning of the investigation occurred to the present writer, but which he soon felt constrained to abandon for want of material to work with. In order to utilize this method it is necessary that all deaths occurring on a reservation during a year or some other specified time, with their causes, should be correctly reported; otherwise the ratio between deaths and population can not be computed. In the majority of Indian reservations, however, this is practically impossible. In some of the largest reservations, where the Indians are scattered over wild tracts larger than many of our States, it is impossible that the agent or physician, no matter how zealous or active he may be, can become cognizant of one death in ten that occurs; and the census-takers during the census year were not able to do much better. The agency physicians are supposed to report only cases that come under their observation or treatment, and it is from their reports that the statistics which Dr. Mays has consulted are prepared in the office of the Commissioner of Indian Affairs. If, in some of the smaller reservations, the physicians can approximate more closely to the actual number of deaths in making their reports, it only renders comparison more uncertain.

But I must do Dr. Mays the justice to say that he seems to be well aware of the practical worthlessness of his "method," for he tells us of the only documents he professes to have consulted—"The Reports of the Indian Commissioners"—that "at no time do these reports furnish the number of deaths from consumption"; nowhere else in his paper does he make any allusion to his "adopted" method, nowhere does he base any argument on it, and nowhere does he advance data to sustain it. A "table" which he gives might seem at a first glance to be the desired data, but a little examination shows that it is not. The only column headings in this table are the following: "Names of Agencies," "Population," "Proportionate Number of *Cases* of Consumption to Population from 1882 to 1886," "Proportionate Number of *Deaths* from *all Causes* to Population in 1886," and "How and When they were brought under the Influences of Civilization" (Italics mine). A column of "deaths from consumption," which would be an essential element in the table to render the method of Dr. Mays valid, is not to be found.

There is no part of the paper under consideration on which more labor seems to have been expended than on this "table," yet there is no part on which labor has been expended more vainly. Its value should depend chiefly on the chronological order of the column headed "How and When they were brought under the Influences of Civilization," for upon this order are based three "groups" from the disease- and death-rates of which we are asked to draw important inferences. Let us take for consideration the first item on the list—the Mission Indians of California ("Mission, Cal."). These, we are told, "were brought under the influences of civilization" "by treaty with Hidalgo." Although this statement is worded so as to make it appear that the treaty was with some individual of the name of Hidalgo, and although no date is given, it may be presumed that reference is made to the treaty between the United States and Mexico, which was concluded at the town of Guadalupe de Hidalgo, Republic of Mexico, in 1848, and which is often called by American historians the treaty of Guadalupe-Hidalgo. By this treaty the present State of

California (with its Mission Indians) was formally ceded to our republic. But why has Dr. Mays seized upon this episode in history as showing when these Indians were brought under the influences of civilization? The Round Valley Indians of California, the Colorado River Indians of Arizona, the Nevada Indians of Nevada, and the Navajo Indians of New Mexico, all passed into our jurisdiction under this same treaty, yet Dr. Mays assigns to the four peoples just mentioned dates for their dawn of civilization quite different—so different in two cases as to throw the individuals concerned into his second group, while the Mission Indians come in the first group. The Pueblo Indians of New Mexico, too, fell to our lot by the same treaty, and, while the date in their case is given correctly (1848), the irrelevant and misleading remark, "Received under old Spanish grant," is added.

But this is not all that our author has to say about the Mission Indians. He further informs us concerning them: "As a rule, they live now as they have lived during the last three centuries." The facts in the case are that few unexpatriated peoples on the face of the earth have, within the last three centuries, suffered greater vicissitudes or experienced greater changes in their mode of living than these Mission Indians. They are the people in whose cause Mrs. Jackson wrote her immortal work of "Ramona," and in which she has attempted to portray but a few of their more recent calamities. When, in 1769, the Franciscans began to establish missions in Alta California, the natives were in a low state of savagery, having no knowledge of agriculture, living on the spontaneous productions of the land and water, going naked, or dressed only in skins and rushes (*tule*). At the close of the eighteenth century the converted Indians of the country numbered thirteen thousand well-fed and industrious people, with habits of life totally changed, tending vast herds of cattle, practicing weaving, agriculture, and other civilized arts, and conforming to the rites of the Catholic Church. They continued to increase rapidly in numbers until the fall of the Spanish power in 1822, since which time, and particularly since they have come under our jurisdiction, they have been robbed of their lands, reduced to poverty, and vastly diminished in numbers.

We might very properly assign as an initial date to the civilization of the Mission Indians that of the first permanent establishment of these missions among them, for the missions wrought marked and rapid changes. But, if we do so with the Californians, we must do the same in the case of the Papago Indians of Arizona. Among this tribe similar missions were established long before the Californian missions came into existence—as early, undoubtedly, as 1720, and perhaps as early as 1694. Their fine old church of San Xavier del Bac, which took fourteen years to build, was finished in 1797. Dr. Mays properly describes them as "industrious and friendly," and as having a form of government "much like that of the Mexicans and Pueblos"; but such as they are now they have been for over a century and a half. Nevertheless, this long-civilized tribe comes next to the last in Dr. Mays's third group (as civilized since 1880), while the Mission Indians head his first group.

But time fails for the further pursuit of this criticism. The samples given fairly represent the character of the whole compilation, which the author assures us he has added "for the sake of clearness and comparison." How it can serve either purpose it is left to the reader to imagine, and also to determine for himself what value the deductions can have which are based on such material.

TREATMENT OF
ANAL FISSURE AND HÆMORRHOIDS
BY GRADUAL DILATATION.*

WITH A REPORT OF CASES.

By H. O. WALKER, M. D.,
PROFESSOR OF ORTHOPÆDIC SURGERY, GENITO-URINARY DISEASES, AND CLINICAL SURGERY, DETROIT, MICH.

Anal fissure, or irritable ulcer, according to statistics, ranks third in frequency among the diseases of the rectum, is found in the infant as well as in the octogenarian, and is due principally to the passage of hardened fæces through the sphincters. Although insignificant in character, it causes fully as much exquisite agony as any ill that human flesh is heir to. Very many simple fissures get well promptly, but where, by frequent mechanical irritation, they come to stay, it is then that beneficial treatment is desirable, and it is for this reason that I offer a report of a few cases treated by a method which is both simple and efficacious.

Case I.—L. M., aged forty-one years, book-keeper by occupation, consulted me in January, 1874, for a rectal trouble which he called "piles," that had troubled him more or less for several years, and for several months had been very annoying. Lately he stated defecation was followed for several hours with excruciating pain, and at times there was considerable loss of blood while at stool. On examination, I found a marked protrusion of hæmorrhoids, and, by separating the parts exposed to view posteriorly, a fissure of the anus extending well up.

The nature of the trouble was explained to him, and the necessity of an operation for its cure. The operation proposed was forcible dilatation of the external sphincter, and ligation of the hæmorrhoids.

This he emphatically refused to have done, and asked if I could not do something in a palliative way. I accordingly directed the use of ext. belladonnæ, gr. ¼, ext. stramonii, gr. ½, in the form of a suppository at bed-time, together with the following application to the parts: Glycerin, ʒ vij, and tannic acid, ʒ j. After following this treatment for some time with little or no benefit, he consented to allow me to introduce my index-finger into the rectum, which I did. Next day he returned, stating that he felt better. I then, after considerable solicitation, introduced a bivalve rectal speculum, slightly separating the blades, and allowing it to remain *in situ* for about two minutes. This procedure I continued daily, gradually increasing the dilatation at each sitting until the blades were separated to their fullest extent, about two inches in diameter. My patient continued to improve gradually until there was an entire subsidence of all previous symptoms, with a thorough healing of the fissure and an absorption of the hæmorrhoidal tumors. The constipation (which I forgot to mention) also disappeared. The entire treatment lasted about five weeks, not being employed daily, after the first week, but at intervals of every two to four days. Since that time there has been no return of the trouble.

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* Read before the Michigan State Medical Society, May 13, 1887.

Case II.—T. E., aged forty-five years, merchant by occupation, first consulted me in February of 1880 for the relief of a violent pain in the rectum following the act of defecation, which had been in progress for nearly a year, and had been gradually growing worse. Inspection revealed what I suspected—a fissure on the left anal margin, together with hæmorrhoids. This patient had been the victim of obstinate constipation for many years, had tried dieting, various laxatives and cathartics, and latterly used cold water enemas every morning, without which he failed to have a daily evacuation of the bowels.

I advised forcible dilatation, but, owing to the fact that it would necessitate his keeping quiet for several days, and not wishing to be away from business, he objected. I then commenced gradual dilatation of the external sphincter every third day, until the blades of the speculum were separated to their fullest extent. I directed him to use at bed-time a suppository of iodoform and balsam of Peru, five grains each. He continued to improve after the second dilatation, and made a perfect recovery in about six weeks. The constipation was also entirely relieved. I saw this patient a short time ago, and he stated that he had been absolutely free from constipation and any rectal irritation since his last visit.

Case III.—J. B., aged forty years, manufacturer, came to me in September, 1883, having had rectal symptoms for over a year, and having suffered from constipation for a much longer period. I discovered on examination a fissure with several hæmorrhoidal tumors. As he was unwilling to submit to forcible dilatation, I resorted to gradual dilatation, as in the preceding cases, and after two months of rather irregular treatment he was pronounced cured. Since which time he has had no recurrence of the trouble.

Case IV.—Mrs. K., aged thirty-five, a large, fleshy woman, consulted me July 7, 1884, for treatment of "piles," as she termed the difficulty. She informed me that ten years previous she had been operated upon for the removal of several hæmorrhoidal tumors by ligature. On examination, I found two or three small hæmorrhoids, and posteriorly a good-sized fissure. About a year previous to the time she sent for me she experienced some pain at stool, which gradually increased so that she was compelled to resort to morphine for relief. She had been treated by two or three physicians by the application of ointments and internal medication without benefit. My first treatment consisted of the introduction of a bivalve speculum and a slight separation of the blades, which I continued daily for about ten days, with marked improvement, each day increasing the distension. At the expiration of three weeks my patient was better of the fissure, there was an entire disappearance of the hæmorrhoids, and there has been no trouble since.

Case V.—Major L., aged fifty, a banker, of Ontario, sent for me in October, 1885, to operate upon him for piles, from which he had been a sufferer for several years.

Examination revealed several hæmorrhoids, which he said bled freely at times; also an extensive fissure on the left side of the anus. In this case I dilated with the bivalve, and, as it was not possible for him to come to Detroit at once for continuance of treatment, I directed that until he could do that he first introduce one finger (anointed with tannin and glycerin), and then another, gradually distending the sphincter. About two weeks after, he wrote me that he considered himself nearly well. I examined him about a month after I first saw him, when I found the fissure healed, and a great diminution of size of the hæmorrhoids.

These reports are taken from a record of upward of fifty cases that I have treated by this method, and are fair representatives of the character and results of the whole. I am firmly of the opinion that this treatment is equally applicable in hæmorrhoids and constipation as in the treatment of fissure, as has been illustrated in these and other cases that have come under my observation.

Monod and Verneuil both speak of a "New Treatment of Strangulated Hæmorrhoids" by forcible dilatation, Verneuil recommending it for simple piles, while Monod goes still further by forcibly dilating the sphincters while the hæmorrhoids are in a state of painful strangulation, using his fingers instead of a speculum.

Kelsey, in his recent work on "Diseases of the Rectum and Anus," in speaking of the treatment of hæmorrhoids by ligature, says that "the sphincter should be carefully dilated first, and this is a step of great practical importance, as the securing of complete paralysis of the muscle will do more than anything else to prevent pain and spasm after the operation. Where this is omitted as unnecessary by the surgeon, I have observed a week of great suffering to the patient follow the omission." He, however, does not speak of this as a treatment for hæmorrhoids. Allingham mentions forcible dilatation as one of the measures for relief of hæmorrhoids, but does not regard it as available in all cases. Gradual dilatation is not spoken of, as far as I know, by any writer, as a means of cure in these cases.

Forcible dilatation is the accepted method for the relief of fissure in ano, and in most cases gives very speedy results.

In conclusion, the treatment of anal fissue and hæmorrhoids by gradual dilatation:

1st. Is almost painless, at least after the first two or three distensions.

2d. It does not tear the parts; nor does it produce paresis, as occasionally occurs after forcible dilatation.

3d. Neither does it leave cicatrices that are apt to produce stricture, as in the method of hypodermic injection or ligature of hæmorrhoids.

33 Lafayette Avenue.

Cholera and Milk.—The "British Medical Journal" says: An instructive example of the facility with which milk may become the medium for the propagation of a zymotic disease is afforded by a limited epidemic of cholera which occurred on board a sailing ship, the "Ardenclutha," lying in the port of Calcutta. Dr. W. J. Simpson, the health officer of Calcutta, investigated the outbreak with great care, and in a most admirable report, published in the "Indian Medical Gazette," offers strong evidence that the outbreak was not to be traced to any peculiar climatic condition, to the state of the ship, to the water, or to any circumstances connected with the visits of the men on shore. Pursuing the inquiry, it was ascertained that ten of the men had used milk supplied by a native who visited the ship daily; of these ten men nine were affected; four died of cholera, and five had severe diarrhœa. . . . The native who supplied the milk kept one cow, which was in good health, but he frankly admitted that the milk he supplied to the sailors contained about 25 per cent. of added water; and it also came out that several of his neighbors had suffered from cholera. A case had been imported on March 2d; the dejecta from this patient drained into the tank on which the milkman's house stood. . . . The milk was clearly the connecting link between the epidemic in the hamlet and on board the ship, and it was without much doubt rendered infective by the addition of the tank water fouled by the dejecta of the imported case. . . ."

THE
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THE QUESTION OF THE DISINFECTION OF IMPORTED RAGS.

The admitted agency of rags in conveying disease was lately mentioned by one of our contemporaries, and the remark was coupled with the statement that the reported reappearance of cholera in France brought the matter again into prominence. From this context a reader might have inferred that our contemporary meant to imply that the conveyance of cholera by rags was not very infrequent, but that can not have been its intention, for there is abundant reason to believe that quite the contrary is the case. In an admirable essay by Dr. Charles F. Withington, entitled "An Inquiry into the Transmission of Infectious Diseases through the Medium of Rags," published in the last "Annual Report of the State Board of Health of Massachusetts," the author says that textile fabrics infected with choleraic discharges are among the rarer agencies by which cholera is transmitted. There is evidence, he adds, that clothing from cholera patients, and possibly clothing merely packed in an infected locality, has, when transported to a distance and there unpacked, caused the disease in those who have handled it, thus starting a fresh cholera focus. But Dr. Withington goes on to say that it is proper to distinguish between clothing recently removed from the body and soon to be worn again, and rags which, if transported to this country, are certain to have undergone a carefully discriminative sorting and drying, and to have been kept for a considerable time in warehouse and on shipboard. He further remarks that the statement that cholera has been transmitted by paper-rags rests upon a solitary case, the details of which are not complete, and on the reliability of which some of the highest authorities on cholera have cast doubt; but, he says, admitting the genuineness of the case, it was one of infection by domestic rags carried only fifty miles from the place where they were collected. This accords with what we long ago expressed as an inference from Koch's researches into the life history of the comma bacillus—that, in the absence of moisture and a suitable soil on which to continue its existence, the cholera contagium was very short lived. If that inference was correct—and, thus far, there are no facts made public to invalidate it—it seems to us chimerical to fear the importation of cholera into the United States from Europe through the medium of paper-rags.

It is, of course, perfectly proper to insist upon the disinfection of imported rags under certain circumstances, but the hardship imposed upon the paper trade by insisting upon their invariable disinfection, and that, too, by an expensive process monopolized by a particular company, we must regard as wholly uncalled for and unjust. There can be little doubt that every reasonable precaution of a sanitary nature would be sufficiently carried out by limiting, as Dr. Withington suggests, the prohibition of the landing of rags without their disinfection to those gathered in localities where there is epidemic infection at the time. As to disinfection by the introduction of steam into the unopened bales, under pressure, it has not yet been demonstrated that the method, as at present carried out, accomplishes the purpose, but it is overwhelmingly evident that the process made compulsory at the port of New York is the source of much unnecessary embarrassment in the prosecution of one of the most important industries of the country. Confirmatory of this position is the recent decided modification that Dr. Sternberg, of the army, states has taken place in his views as to the matter of rags as vehicles of the cholera infection and the necessity of their disinfection by steam.

TABETIC ANGINA PECTORIS.

It is well known that, in the long and tedious course of the affection termed tabes dorsalis, the functions of various viscera may show certain derangements constituting the "visceral crises" of authors. These functional derangements have been somewhat fully treated of in recent medical writings, but those of the heart—the "cardiac crises"—have not engaged so much attention, and as yet the literature pertaining to them is meager and unsatisfactory. A report of four cases, by Leyden, in the "Centralblatt für klinische Medicin," may therefore be looked upon as a noteworthy contribution to the data at our disposal. In those cases the attacks bore a close resemblance to those of angina pectoris, and they were considered by the author as examples of neuralgia affecting the vagi nerves. Like the other sensory disturbances incident to tabes, they varied widely in intensity and duration, but some of them were severe enough to be alarming and to threaten life. That they were well-marked examples of angina pectoris is shown by the sense of oppression and severe pain in the precordial region, the pain radiating to the left shoulder and sometimes extending down the arm, the feeling of anxiety and sense of impending death, the difficulty of breathing, and the coldness and clamminess of the surface.

In these cases of Leyden's, the attacks made their appearance rather late in the course of the disease, but Vulpian has observed a case in which cardiac crises were among the early manifestations. Most of the attacks are associated with gastric crises, but in all of Leyden's patients they were free from any such association. In the few instances in which there has been a post-mortem examination, no changes in the heart have been detected; still, in the light of recent researches into the condition of the nerves in tabes, it seems not unreasonable to assume that the deranged function of the heart is due to a degenerative peripheral neuritis affecting the vagus. This view receives material support from a case of gastric crises described by Oppenheim, in which decided atrophy of the vagus was found, and in which, indeed, there had been attacks of angina pectoris. Regarding the treatment of tabetic angina pectoris, it is worthy of mention that in Vulpian's case the attacks rapidly disappeared under the use of nitrate of silver. Leyden seems to have contented himself with palliative treatment during the seizures, using measures that are commonly employed for paroxysms of angina pectoris due to other causes.

MINOR PARAGRAPHS.

THE POLLUTION OF DRINKING-WATER.

With the pointed example shown in Pennsylvania only two or three years ago of the devastation that can be accomplished by disease spread by polluted drinking-water, and the publicity that the case acquired, it is almost inconceivable that town authorities and keepers of country hotels and boarding-houses should go on ignoring the danger as they do. One might naturally suppose that, in the interest of their own ultimate prosperity, if for no more creditable reason, they would take the simple precautions that suffice to prevent the evil. But this, it seems, they are in many instances too incredulous or too shiftless to attend to, as appears to be shown by recent outbreaks of typhoid fever traceable to water-pollution in Narragansett and in Mount Holly, N. J.

THE WEST VIRGINIA STATE BOARD OF HEALTH.

It is much to be regretted that a serious impediment to the continued good work of the West Virginia board is met with in the hostility of the present Governor of the State. The Wheeling "Intelligencer" charges that official with having long delayed to appoint successors to six members of the board whose terms had expired—a duty that plainly devolved on him under the law—and with having at last appointed a man who is ineligible, besides laboring under the disadvantage of having incurred the opposition of nearly every physician in Wheeling, where he lives, to his taking a seat in the board. This opposition appears to have been backed up by the State Medical Association at its recent meeting. Even if not thoroughly well founded—and we know of nothing to show that it is not—this general disapproval by the medical profession would cripple the appointee's official usefulness, and, for that reason alone, a prudent Governor devoted to the public interests would reconsider his action in the matter.

THE RIGHT TO PRACTICE DENTISTRY IN NEW YORK.

A case having recently arisen in which a legally qualified practitioner of medicine was prosecuted by the New York State Dental Society for practicing dentistry illegally, Mr. Justice Gorman decided that the medical qualification carried with it the right to practice dentistry. It was urged in behalf of the prosecution that the defendant was a graduate of the Eclectic Medical College, and that he had been convicted of malpractice; but it was shown that, whatever the standing of the college might be, it was legally empowered to grant the medical degree, carrying with it the license to practice, and that, as regarded the conviction for malpractice, the defendant said that he had been pardoned by the Governor. The judge promised to dismiss the complaint if the defendant brought proof of his having been pardoned.

MORE NEWSPAPER MEDICINE.

There seems to be no limit to the wonders in medicine and surgery that the newspapers have in store for us. One of the city papers publishes a circumstantial account of a case of tracheotomy with inflation that lately occurred in Buffalo, and intimates that the procedure never presented itself to the mind of man before; and a London paper, descanting on the treatment of baldness, says: "Of course, when the hair follicles have dropped off nothing can be of any avail."

AN AMPUTATION BY A SQUIRREL.

The "San Francisco Examiner" tells a curious story of a pet squirrel that had one of its feet so strangulated, in consequence of its becoming entangled in a strand of thread, that sloughing took place, whereupon the animal gnawed the bones apart at a joint, thus completing the amputation. But in the course of a few days it became evident that there was not enough flap to cover the bone, and then the squirrel pushed aside the soft parts with its nose, and gnawed off the bone at a higher point. The result of this was, that in a fortnight the stump had healed and looked "as perfect as if a surgeon had done the work."

THE MEDICAL LITERATURE OF BUENOS AYRES.

The "Revista Argentina de Ciencias Médicas," edited by Dr. Don Pedro Lagleyze, assisted by a corps of collaborators representing the *Circulo Médico Argentino*, is a monthly publication now in its fourth year. It is a most creditable work, and one that must be of exceeding value to the profession in the Argentine Republic, one of the most prosperous and progressive of South American countries. More noticeable still is another publication, also edited by Dr. Lagleyze, the "Revista Argentina de Oftalmologia Práctica," a beautifully printed and superbly illustrated quarto. The twelve numbers of the first year contain ninety-six pages of text, together with eleven fine lithographic plates, mostly in colors, and showing various pathological states of the fundus oculi. We congratulate Dr. Lagleyze and his associates on the great value of their publications.

THE GREENLAND FISHERMEN'S VERTIGO.

This curious affection, the *Svimmelhed i Kajak* of the Danes, has lately been made the subject of study by Hastrup, and the "Revista Argentina de Ciencias Médicas" quotes an account of it from the "Revue internationale des sciences médicales." The first attack occurs to an Esquimau fisherman when he finds himself alone in his boat with no land or any other boat in view, and is characterized by the hallucination that his boat has lost its balance, so that he rushes from one end of it to the other, in order to restore its equilibrium. The illusion ceases when land or another boat comes into view. Hastrup considers it a pure hallucination, and finds no evidence that it is caused by the abuse of coffee, tobacco, etc., as has been supposed. A mysterious feature of the affection is, that a person who has had one attack remains subject to others under like circumstances, and is in great measure unfitted to pursue the life of a fisherman.

KOLISCHER'S TREATMENT OF WHITE SWELLING.

The method of treating localized tuberculosis lately presented before a Vienna medical society by Dr. Kolischer is beginning to attract considerable attention. Assuming calcification to be the natural process of cure, Kolischer conceived the idea of initiating or hastening that metamorphosis by injecting calcareous salts into the tubercular deposits, and used phosphate of calcium held in solution by means of an excess of phosphoric acid. According to an article in the "Bulletin médical," summarized in "Lyon médical," after an injection into the fungosities of a diseased joint, an inflammation develops, accompanied by fever of three or four days' duration, and then the process of calcification begins, occupying on an average from twenty to twenty-five days, during which time the fungosities become indurated. Finally, after a few weeks more, the calcified tissue undergoes absorption and a cure with considerable mobility of the joint in the result. Professor Albert is quoted as having expressed the opinion that the procedure constitutes a distinct advance in therapeutics, and it is suggested that it would produce equally good results in cases of scrofulous degeneration of lymphatic glands and other localized tuberculous processes.

THE QUESTION OF CONSCIOUSNESS AFTER DECAPITATION.

Not long ago we referred to certain investigations of this question in France, in the case of the lower animals. In a recent issue of the "Progrès médical," M. Paul Regnard and M. Paul Loye give an account of their observations in the case of a criminal beheaded at Amiens. They concluded that there was no sign of conscious life at the end of two seconds, but, by irritating the cornea, they were able to evoke reflex movements up to the sixth second. The contractions of the cardiac ventricles continued for twenty-five minutes, and those of the auricles for an hour. The death was calm and without agony, contrary to what one of the authors has observed in the lower animals, and was due not to asphyxia, but to an inhibition analogous to that studied by Brown-Séquard in animals that died of the effects of certain irritations of the nervous system.

THE SUDDEN DISAPPEARANCE OF A HYDROCELE.

In a recent number of the "Gazette hebdomadaire des sciences médicales," M. Dumas, of Lédignan, gives a detailed account, largely in the patient's own words, of the sudden disappearance of a large hydrocele, apparently by the fluid making its way into the peritoneal cavity. The disappearance of the hydrocele was immediately followed by a greatly increased discharge of urine. M. Dumas states that this mode of termination must be exceedingly rare, although Vidal de Cassis seems to have been informed of a case, but regrets that more details concerning it had not been furnished.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 26, 1887:

DISEASES.	Week ending July 19.		Week ending July 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	7	14	5
Scarlet fever	43	9	42	6
Cerebro-spinal meningitis	4	4	2	1
Measles	33	8	33	4
Diphtheria	106	45	88	27
Small-pox	9	1	2	2

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 17, 1887, to July 23, 1887:*

Heger, A., Lieutenant-Colonel and Surgeon. Assigned to duty as member of Army Retiring Board convened at Governor's Island, New York Harbor, N. Y., vice Colonel Charles Sutherland, Surgeon, hereby relieved. Par. 13, S. O. 167, A. G. O., July 21, 1887.

So much of Par. 1, S. O. 156, c. s., A. G. O., as directs John de B. W. Gardiner, Captain and Assistant Surgeon, to report for duty at Fort Washakie, Wyoming Territory, is revoked by Par. 43, S. O. 162, A. G. O., July 15, 1887.

Barnett, R., Captain and Assistant Surgeon. Sick leave still further extended six months on account of sickness. S. O. 162, A. G. O., July 15, 1887.

So much of Par. 1, S. O. 156, c. s., A. G. O., as relieves George H. Torney, Captain and Assistant Surgeon, from duty at Fort Monroe, Virginia, is revoked by Par. 42, S. O. 162, A. G. O., July 15, 1887.

Taylor, A. W., Captain and Assistant Surgeon, now at Fort Laramie, Wyoming, is ordered for temporary duty at Fort Robinson, Nebraska. S. O. 162, A. G. O., July 15, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending July 23, 1887:*

Long, W. H., Surgeon. Granted leave of absence for thirty days on account of sickness. July 12, 1887.

Austin, H. W., Surgeon. Granted leave of absence for thirty days. July 16, 1887.

Watkins, R. B., Assistant Surgeon. Relieved from duty at Marine Hospital, Detroit, Mich.; ordered to assume charge of service at Evansville, Ind. July 9, 1887.

Fessenden, C. S. D., Surgeon. Granted leave of absence for thirty days on account of sickness. July 18, 1887.

Mead, F. W., Passed Assistant Surgeon. Granted leave of absence for thirty days. July 19, 1887.

Yemans, H. W., Passed Assistant Surgeon. Granted leave of absence for thirty days. July 23, 1887.

Brooks, S. D., Passed Assistant Surgeon. Promoted and appointed passed assistant surgeon from July 1, 1887. July 21, 1887.

White, J. H., Assistant Surgeon. To proceed to Washington, D. C., as escort to an insane seaman. July 18, 1887. Ordered to examination for promotion. July 23, 1887.

Watkins, R. B., Assistant Surgeon. Leave extended fourteen days on account of sickness. July 20, 1887.

Magruder, G. M., Assistant Surgeon. To proceed to Galveston, Texas, for temporary duty. July 21, 1887.

Society Meetings for the Coming Week:

Monday, *August 1st:* Morrisania, N. Y., Medical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association.

Tuesday, *August 2d:* Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Androscoggin, Me., Medical Association (Lewiston); Hampden, Mass., District Medical Society (Springfield).

Wednesday, *August 3d:* Medical Society of the County of Richmond, N. Y. (Stapleton); Bridgeport, Conn., Medical Association.

Thursday, *August 4th:* Society of Physicians of the Village of Canandaigua, N. Y.

Saturday, *August 6th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Jeremiah P. Bliven, M. D., of Brooklyn, died on Tuesday, the 12th inst. The deceased was a native of Rhode Island and was graduated from the Medical Department of Yale College in 1834. He formerly practiced in New York, and for a number of years he was a police surgeon. In 1872 he moved to Brooklyn. He was a member of the Medical Society of the County of New York, of the Academy of Medicine, and of the Physicians' Mutual Aid Association.

Ariel Ballou, M. D., of Woonsocket, R. I., a well-known and aged physician, died in Providence on the 15th inst., at the age of eighty-two. He was born in Cumberland, R. I., in 1805, and graduated at Bowdoin Medical College in 1830. For fifty years he practiced his profession in Woonsocket. Dr. Ballou filled, in his long and busy life, many responsible and honorable positions in the political and medical history of Rhode Island. He was beloved and respected by a large circle of friends.

Horace Chapin, M. D., of Lincoln, Neb., died on the 15th inst. in the sixty-fourth year of his age. The deceased was a native of Massachusetts, and was graduated from Harvard Medical School in 1859. After practicing for about twenty years in Somerville, Mass., he moved to Lincoln, where he has since resided. His death was due to rheumatism affecting the heart. Dr. Chapin was a man of superior mental attainments, decided in his opinions, a safe counselor, and a firm friend. He was a member of the Massachusetts Medical Society and of the Middlesex, Mass., South District Medical Society.

O. F. Fassett, M. D., of St. Albans, Vt., died recently at the age of sixty. The deceased was a native of Enosburg, Vt., and in 1851 was graduated from the Vermont Medical College, Woodstock, an institution that became extinct in 1856. He began practice at Berkshire, Vt., where he remained until 1865, when he moved to St. Albans. He was a member of the Vermont Medical Society, of which he was president in 1863, and of the Franklin, Vt., County Medical Association, of which he was president in 1875 and 1876.

Letters to the Editor.

VAGINAL HYSTERECTOMY.

20 West Forty-fifth Street, *July 25, 1887.*

To the Editor of the New York Medical Journal:

Sir: In an article on "Vaginal Hysterectomy," by Dr. A. P. Dudley, published in your Journal for July 9th and 16th, credit is given me for three operations of complete removal of the cancerous uterus *per vaginam*, with one recovery. I desire to add to this number two cases in which I operated on February 2 and 23, 1887, with recovery; also a third, in which I operated on the 19th inst., which has thus far progressed so favorably that I have no reason to doubt that the patient will recover. I am induced to ask you to publish this note partly because I wish to place my improved results on record (six cases with four recoveries), and partly because I feel compelled to differ with Dr. Dudley in his recommendation of the lateral posture with Sims's speculum as the best for the operation. My last three operations were performed with the patient in the dorsal posture, the uterus being removed *in situ*, according to the methods of Fritsch and Leopold, with modifications to suit the case, perineal and lateral retractors being used only at the beginning of the operation, and occasionally later on. The duration of the operations did not exceed an hour and a half, and the recoveries were uninterrupted. I am convinced that increased familiarity with the technical details of this operation will enable us to achieve as good results, so far as immediate recovery is concerned, as are reported by Fritsch (60 cases with 7 deaths) and Leopold (48 cases with 3 deaths). Had I then been as familiar with the details of the operation as I am now, and had I performed it then in the dorsal posture, I am confident that I should not have lost my second and third patients, who died of shock from concealed hæmorrhage, the Sims's speculum having hidden the bleeding points.

Yours truly,

Paul F. Mundé.

Keene, N. H., *July 25, 1887.*

To the Editor of the New York Medical Journal:

Sir: In a paper read by Dr. A. Palmer Dudley at the third meeting of the Alumni Association of the Woman's Hospital, and published in your Journal for July 9th and 16th, entitled "Vaginal Hysterectomy in America," there is one statement that is misleading. In speaking of the extirpation of the uterus by abdominal section, Dr. Dudley says: "As early as July 25, 1853, Dr. Walter Burnham, of Lowell, Mass., operated by this method, and was followed in August of the same year by Dr. Gilman Kimball, of the same city." This naturally conveys the idea that Burnham was the first successful operator and entitled to the credit of the same. This is contrary to fact. To Dr. Gilman Kimball belongs, and has been given, the credit of having been the first to operate with success after a *correct* and clearly determined diagnosis had been made. The case occurred in Vernon, Conn., and the operation was performed on September 1, 1853, for the removal of a uterine fibroid. It was in every way a success, the patient being fully restored to health. A full history of the case was published in the "Boston Medical and Surgical Journal" in May, 1855. The case reported by Burnham and one reported by another operator in a neighboring city were cases of *mistaken* diagnosis. An operation was undertaken in each case for the removal of an ovarian tumor, but resulted in the removal of a uterine fibroid, and in one case the operator did not know he had removed a fibroid until he was told so by a pathologist to whom it had been sent for examination. The accounts of the cases were published and widely distributed, but for some mysterious reason the error in diagnosis was not mentioned.

I will mention a few of the leading men who give the full credit of the operation to him to whom it belongs. Kœberlé, of Strassburg, in a pamphlet on "Extirpation of the Uterus," describes the case of Dr. Kimball as the first successful one on record. Bantock, of London, in an exhaustive article in the "British Medical Journal," after reviewing the whole subject, unhesitatingly gives the credit of having been the first to operate successfully in this line of surgery to Dr. Gilman Kimball, of Lowell. Baron von Langenbeck, of Berlin, speaks of this case as having no precedent in surgical literature. Keith, of Edinborough, also ascribes to him the full credit for priority in the operation. In a paper by Dr. T. G. Thomas, of New York, published in the "American Journal of the Medical Sciences," in 1876, reviewing the progress made in gynæcology in this century in America, in speaking of the procedure, the author says: "In 1853 the first operation was performed in this country for this purpose by Kimball, of Lowell, the tumor weighing six pounds, and the patient recovering. . . . Kimball has, thus far, performed ten operations, with four recoveries and six deaths." It is thus seen that the most eminent authorities, both at home and abroad, place the credit where it rightfully belongs, and it does not seem as if any one who knows the true history of the operation will presume to question the correctness of what is now acknowledged by the highest authorities on the subject.

Yours respectfully,

Ira J. Prouty.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, held at Long Branch, N. J., Wednesday, Thursday, and Friday, July 20, 21, and 22, 1887.

The meeting was called to order at the West End Hotel, at 11 o'clock, by the retiring president, Dr. Charles K. Mills, of Philadelphia. New members were elected as follows: Dr. Henry Hun, of Albany, Dr. Henry M. Lyman, of Chicago, Dr. Irvine C. Rosse, of Washington, Dr. Theodore H. Kellogg, of New York, Dr. Philip Coombs Knapp, of Boston, and Dr. Nathan E. Brill, of New York. The following-named gentlemen were made members by invitation: Dr. Samuel Ayers, of Pittsburgh, Pa., and Professor J. Jastrow, of Johns Hopkins University, Baltimore. Dr. William A. Hammond, of New York, was elected an honorary member.

The Address of the Retiring President favored the association's participation in the movement to form an American Congress of Physicians and Surgeons, and closed with a special reference to the address of last year and the reading of a letter received from Professor Benedikt, of Vienna, to whose work on the brains of criminals it had directed attention.

The Address of the President-elect, Dr. Landon Carter Gray, of Brooklyn, was a brief review of the history of neurology in this country and a comparison of its position with that occupied in Europe. It then made brief mention of the progress which had been made in this department of medicine during the last quarter of a century.

Some Points regarding Therapeutical and other Injuries of the Brain.—Dr. E. C. Spitzka, of New York, read a paper with this title, in which he detailed observations made with hypodermic and other needles on the brains of dogs, and the introduction of foreign substances into the arachnoid cavity. While hypodermic needles could with impunity be introduced into the brain, he concluded that exploratory needles should never be introduced into the internal capsule, the contiguous ganglia, or the lateral ventricles merely for exploratory purposes unaided by positive clinical indications of the location of disease; that exposures of large surfaces of brain were not feasible in persons with feeble vascular walls, owing to the danger of intra-central hæmorrhage; and that buttons of bone, removed by the trephine, might in young persons become reunited with the cranium, even though perfect coaptation was not secured, and that, reinserted, under antiseptic precautions, they were entirely harmless, even in the event of non-union.

Dystrophy of the Face and Head.—Dr. J. J. Putnam, of Boston, read a paper with this title, and reported a case due to general hyperostosis of the cranium occurring in a woman, a native of Sweden, and twenty-nine years old. She was in good health up to nine years ago, the time of her confinement with her first child. Two years later she had a miscarriage, and the next year it was noticed that her face was broadening and that her eyes were prominent. There was headache. There was no evidence of syphilis or rhachitis. The deformity steadily increased. Three years ago her teeth began to fall out, and all of them disappeared. A year later she began to have purulent discharge from both ears, hearing became impaired, and complete deafness ensued. Her intelligence remained good, although she suffered from some cerebral symptoms. The left crystalline lens became partly opaque, and the exophthalmia was most marked in that eye. The patient died in Sweden. The circumference of the head was 59 ctm., and its greatest width 16 ctm. when she was last seen by the author. In the museum of the Harvard Medical School there was a skull which showed general thickening to the extent of an inch and a half, with narrowing of all its cavities, especially the orbital.

Intra-cranial Tumor.—Dr. Putnam also presented a specimen removed from the brain of a woman, thirty-eight years old, who suffered from periodical headaches, but in whom no unequivocal symptoms of brain tumor had been detected until four months and a half before her death. The entire course of the disease was twenty-one months. A terrific headache lasting two days ushered in an almost unbroken series of attacks, mainly frontal, which he regarded as the first positive symptom of tumor of the brain. Vision was slightly indistinct, and marked optic neuritis was present. There were no localizing symptoms of cerebral disease. For six weeks before death she was nearly unconscious, the power of speech became more and more limited, and she lay with her right hand constantly to her head. When conscious she complained of severe pain in the second and third fingers of the left hand, running upward to the elbow. The temperature remained normal. There was paresis of the right buccal muscles. The autopsy revealed a tumor, partly cystic, unattached to the brain except by vessels, in the caudal extremity of the second and third left frontal convolutions and beneath the frontal lobe, reaching toward the median line so far as to push the left olfactory nerve to one side.

Hereditary Tremor.—Dr. C. L. Dana, of New York, read a paper in which he described a new affection, of neuropathic origin, consisting of a fine tremor, like that of neurasthenia or that of ataxia, constantly present, except during sleep, and hereditary.

Pseudo-hypertrophic Paralysis.—Dr. George W. Jacoby, of New York, gave the results of microscopical studies in a case of this disease occurring in a boy fifteen years old. His conclusions were that, in his patient, the disease was essentially a chronic inflammation invading both the perimysium and the muscle tissue. The process consisted of a gradual reduction of the muscle fibers into medullary or inflammatory corpuscles, which in turn went to form partly fibrous, partly cartilaginous, and partly fat connective tissue. This extremely slow process gradually led to augmentation of myomatous or other varieties of connective tissue, at the expense of the muscle tissue. Either the disease in the tissue of the muscle was primary and that of the connective tissue secondary, or the process in both occurred simultaneously both in the muscle and in the perimysium. He regarded the entire process as one belonging to the same class as myositis ossificans progressiva.

Dr. Dercum was in doubt as to which was primarily affected, the muscle tissue or the connective tissue; and Dr. Putnam thought that a mixture occurred.

Arrested Cerebral Development.—Dr. B. Sachs, of New York, read a paper on this subject, with special reference to its pathology, which, from the microscopical study of a case, he said consisted of changes affecting the pyramid cells of the cortex. The case occurred in a child two years old with absolute lack of mental development. There was a distinct history of traumatism, but no history of either syphilis or rhachitis. The brain presented the characteristics of the low-type brain. The positive histological changes concerned the pyramid cells of the cortex, of which there was scarcely one that was normal. The glia, the neuroglia, the blood-vessels, and the white fibers were normal. There was no evidence of an inflammatory process, and for that reason the author thought that the changes proved that it was a case of inhibited development, pure and simple, without previous inflammation.

Sarcoma involving the Intra-pelvic Nerves.—Dr. Putnam reported the case and presented microscopic sections as a contribution to the study of "paraplegia dolorosa," due to the invasion of the intra-abdominal nerves. The patient was a man, seventy-two years old, of excellent history and habits. About a year and a half before his death he complained first of pain in the middle toe of the left foot. This recurred frequently for some months, and was occasionally felt throughout the rest of his life. The left leg was involved about six months before the right, and in the mean time the pain in the left limb had greatly lessened. No glandular enlargements could be detected until about two months before death. The new growth toward the last invaded the skin of the buttocks and abdomen.

Insanity of Doubt.—Dr. James Hendric Lloyd, of Philadelphia, read a paper on this subject, and reported one of a number of cases which he had had under observation belonging to this class. The delusions of doubt were changeable and negative, and somewhat allied to those of melancholia. It was a species of reasoning mania in which the subjects would reason concerning their condition, proposed treatment, etc., but in which, as soon as one doubt had been removed, many others came to take its place.

Dr. Mills and the President entertained somewhat different opinions as to the proper course to pursne in the management of such cases.

Chorea.—The President then read a paper the central point of which was the idea that chorea was not the slight disease that many supposed it to be. The following classes of cases should be regarded with care: Those in which convulsive phenomena had appeared; those with spasmodic contraction of the muscles of respiration; those with marked hysterical symptoms; those with rapid pulse or dyspnœa without evident pulmonary or cardiac lesions; and those in which there were cardiac and pulmonary complications. In regard to treatment, he had no faith in the efficacy of arsenic, except for affording temporary relief, and then it should be given only in medium doses. He relied, for effecting a cure, upon absolute rest, which was a *sine qua non;* iron, the dialyzed preferably; galvanism in large doses to the spinal cord in chronic cases; the bromides; and sometimes hyoscyamine.

The discussion included the consideration of some of the complications of chorea, the use of other drugs than those mentioned, and the relation of different experiences concerning the beneficial effect produced by arsenic. It included remarks by Dr. M. A. Starr, Dr. G. W. Jacoby, and Dr. G. M. Hammond, of New York; Dr. Wharton Sinkler, Dr. F. X. Dercum, and Dr. J. H. Lloyd, of Philadelphia; Dr. F. T. Miles, of Baltimore; and Dr. R. T. Edes, of Washington.

Weigert's Staining.—Dr. M. Allen Starr, of New York, exhibited microscopic specimens which showed some of the extraordinary details that could be brought out by this method.

Hemichorea associated with Bright's Disease. — Dr. Francis X. Dercum, of Philadelphia, reported two cases, and in his remarks maintained that the weight of evidence sustained the theory that a causal relation existed between the two diseases. It might seem strange that, if chorea was really related to Bright's disease, it should be so limited. Disturbances of the nervous system, limited to one half of the body, however, did occur in Bright's disease, and the one-sided action of the nervous system in uræmia was by no means limited to old persons.

Dr. Edes and Dr. Mills were inclined to the opinion that the association of the two diseases was accidental.

Acute, or Grave, Delirium.—Dr. Spitzka described this affection, first recognized by Dr. Luther Bell, of Massachusetts, as a form of delirium the outbreak of which was preceded by insomnia, malaise, inability to think, a bursting sense of pressure in the head, increasing irritability, and the sense of impending misfortune. The outbreak was often so sudden as to suggest the fulminating type of typhus or epidemic meningitis. The patient was hilarious, and shouted and indulged in imagery, to pass into apathy, or become the subject of a wild aggressive delirium, or of a panphobic delirium. The changes in the brain varied from none to the most profound structural alterations, all being the collateral results of hyperæmia. In the absence of light on the pathological foundation of the disease, he asked that attention be directed to the very important question of the ability of predisposed and overburdened nervous centers to poison themselves. In the treatment of this form of delirium, "chemical restraint," used in a manner that would be justifiable, failed.

Gliomatous Hypertrophy of the Pons Varolii. — Dr. Henry Hun, of Albany, read a paper with this title. The disease in a case that he reported occurred in a girl six years old, and gave rise to no symptoms of irritation, no convulsions, and but little headache. There was simply steadily increasing loss of function of those nervous elements which were subjected to the pressure of a growing tumor that occupied the pons, and increased its size to three or four times the normal. It was remarkable that, notwithstanding the great amount of œdema of the brain present in this case, and an internal hydrocephalus so extensive as to cause a perceptible enlargement of the head, consciousness—even intelligence—was preserved to the end of life. The growth was glio-sarcomatous.

Paramyoclonus Multiplex.—Dr. Starr read a paper on this affection, first described by Friedreich, and reported a case. The characteristics of the disease were as follows: It was a spasmodic affection of the muscular system, occurring bilaterally in symmetrically situated muscles attached at one or both ends to the trunk, and to muscles functionally associated with these, consisting of a series of violent clonic spasms of considerable rapidity and severity, occurring only at intervals, and associated with fascicular tremors of the affected muscles, persisting during the intervals between the spasms. It occurred after some mental or physical strain, and was not accompanied by any disturbance of sensory or motor functions, excepting by an increase of the superficial and deep reflexes. It could be excited by irritation of the skin or tendons. The prognosis was favorable, but relapses might occur. The treatment which had given the best results had been the use of the strong galvanic current to the spine and neck, and the application of the anode to sensitive areas if they were present.

The Thermogenetic Apparatus.—Dr. Isaac Ott, of Easton, Pa., in a paper on this subject, said that the weight of evidence was in favor of the theory of spinal heat-centers. He had experimented on cats and rabbits with atropine, and the conclusion which he had reached was that this drug increased the temperature by stimulating the thermogenetic centers in the spinal cord.

Anencephalia.—Dr. Dana described a case in which there was complete absence of the corpora striata and both central hemispheres.

The Treatment of Neuralgia by means of Intense Cold.—Dr. Jacoby read a paper on this subject, in which he set forth the advantages attending the use of chloride of methyl and liquid carbonic acid. His general impression was that we had in chloride of methyl a reliable analgesic which did not affect the general condition of the patient, and that it was invaluable in the treatment of neuralgia for the immediate relief of severe pain. It was used in the form of spray under high pressure. The objections to be overcome were the expense of the apparatus and the difficulties of getting the drug. From his experience in the use of condensed carbonic acid, his conclusions were that, in the absence of chloride of methyl, it was able to take the place of that remedy in the treatment of sciatica; that the pain was relieved very promptly by it, but that its curative effect was not so great as that attributed to the chloride of methyl by other observers.

Dr. Edes and Dr. Dana had used rhigolene with benefit in the treatment of neuralgia, and so had Dr. Jacoby, but he had found it objectionable because of the less intense degree of cold produced, and also because it could not be applied to a sufficiently large surface.

Poliomyelitis and Multiple Neuritis of Syphilitic Origin.—Dr. Mills read a paper in which he said that cases of multiple neuritis were met with in practice, also poliomyelitis, and also cases in which there was a concurrence of these inflammatory conditions. He regarded cases of pure and simple multiple neuritis as rare. He reported three cases which had a distinctly syphilitic history, and in one there was a history of traumatism. These cases corresponded very closely with Dr. Starr's description of multiple neuritis given in the Middleton Goldsmith Lectures, and yet Dr. Starr had practically excluded syphilis as a cause. The questions for discussion were, what symptoms were due to myelitis, what to multiple neuritis, and what to both, and he believed that there were no clear diagnostic points between these affections which would enable us to say positively that here was a case of multiple neuritis, there one of diffuse myelitis, and still further one of poliomyelitis anterior. The fact of recovery, the marked sensory symptoms, or the gradual onset, he regarded as unreliable for making a positive diagnosis. There were symptoms which rendered the diagnosis probable, but more than that in certain cases could not be said with safety.

Dr. Miles thought that he had seen a mixture of the two affections in several cases, and even then it was difficult to say which began first.

Dr. Edes thought that Dr. Miles was correct in his opinion that the two diseases frequently co-existed.

Dr. Putnam had seen a case in which the symptoms were absolutely typical of multiple neuritis, and in which the cord was examined and found healthy, but the brain contained a number of spots of softening.

Bulbar Paralysis.—Dr. E. D. Fisher, of New York, reported a case with remarks. It was one which he had had an opportunity to observe throughout its course. Microscopical examination of the medulla revealed nearly complete absence of the hypoglossal cells and atrophy of the nerves themselves.

Dr. G. M. Hammond mentioned a case which began in 1881 and terminated in 1887.

Hydrotherapy in Mental Disease.—Dr. Theodore H. Kellogg, of New York, first gave an outline of the history of hydrotherapeutics among the ancient and more modern nations, then spoke of the principles which should guide one in its use, and closed with the indications for hydrotherapy in mental diseases, which were to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis, to allay irritability of peripheral nerves, to procure sleep and relieve central hyperæmia, to improve the general nutrition, and in a measure to take the place of drugs.

Dr. Ralph L. Parsons, of New York, referred to the good effects of hydrotherapy, the caution which should be observed in the use of the shower-bath, etc.

Dr. Mills spoke of the benefit to be derived from the judicious use of this remedy.

Officers for the Ensuing Year were elected as follows: President, Dr. J. J. Putnam, of Boston; vice-presidents, Dr. Wharton Sinkler, of Philadelphia, and Dr. B. Sachs, of New York; secretary and treasurer, Dr. Græme M. Hammond, of New York; councilors, Dr. George W. Jacoby, of New York, and Dr. Robert T. Edes, of Washington.

Papers were read by title as follows: By Dr. H. M. Lyman, of Chicago, on "The Treatment of Progressive Locomotor Ataxia with Rarefied Air"; by Dr. Philip Coombs Knapp, of Boston, on "Hemiplegia in Childhood"; by Dr. Irvine C. Rosse, of Washington, on "Illustrations of Error in the Diagnosis of some Nervous Diseases"; and by Dr. Nathan E. Brill, of New York, on "The Anatomical and Physiological Relations of the Tract usually designated as the Column of Goll."

The association voted to join the Congress of American Physicians and Surgeons. Dr. L. C. Gray, of Brooklyn, was elected delegate, and Dr. Charles K. Mills, of Philadelphia, alternate, to attend the meeting of the Conference Committee to be held in September, in Washington.

Dr. E. C. Seguin, of New York, was added to the Committee on Encephalic Nomenclature, to fill the vacancy caused by the death of Dr. McBride, of New York, and the committee was continued.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 9, 1887.

The President, Dr. T. Mitchell Prudden, in the Chair.

Numerous Calculi from the Spleen.—Dr. W. H. Porter presented a number of small calculi from a man's spleen, in which he had found over a hundred, varying in size from that of a filbert down. There was no lesion of the heart, no stones were found elsewhere in the body, and there were no infarctions. The case, he thought, was unique.

Lesions following the Use of Antipyretic Drugs.—Dr. Porter also presented the liver and kidneys of a patient to whom large doses of antipyrine had been given, in which, as a result of the action of that drug, it was thought, extensive fatty and granular metamorphosis had taken place. The patient had had only a moderate attack of rheumatism with some elevation of temperature, for the reduction of which pretty full doses of antipyrine were given at rather short intervals. It did not seem to affect the temperature very much. After the patient entered the hospital the temperature went up to 105° F., and following the use of antipyrine it went up to 107° F. The use of antipyrine was then stopped, and salicylic acid was administered. The temperature then fell to 103° F. Antipyrine was given again, and the temperature rose again. Antifebrine also was used, but the temperature went higher and higher, and the patient died with a temperature of 109° or 110° F. The speaker had seen in literature that men who had experimented with antipyretics, such as antipyrine, antifebrine, and thalline, had found extensive changes in the liver and kidneys, and during life casts and albumin in the urine, but they maintained that it was of no practical importance. They also had made the observation that patients treated with these antipyretics recovered less quickly, especially patients with typhoid fever, the duration of the disease being about forty-two days, whereas in those treated with other antipyretic measures, such as baths, it lasted only about thirty-two days. One writer had said that when he used antipyrine he succeeded in getting the highest death rate, but he was inclined to think the patients were more comfortable while they lived. The speaker had noticed for some time that in the bodies of patients who had been treated with antipyrine there was very frequently granular and fatty metamorphosis of the liver and kidneys. He had therefore come to believe that antifebrine, antipyrine, and thalline were not such safe antipyretics as had been maintained.

Syphilitic Salpingitis.—Dr. H. J. Boldt presented the uterine appendages of a woman who gave no history of gonorrhœa, but who had had a chancre, and was then suffering from extensive secondary lesions of syphilis. She had severe pelvic pain. He thought the cause of the salpingitis was syphilitic. She made a good recovery after the removal of the appendages.

Carcinoma of the Bladder.—Dr. Frank Ferguson presented the bladder and kidneys of a man sixty-one years of age, who had died in the hospital. The autopsy revealed a tumor at the base of the bladder, slightly raised above the surrounding mucous membrane, circular in outline, an inch and a quarter in diameter, involving the entrance of both ureters, which were nearly occluded. The rectum and seminal vesicles had been invaded by the growth, which was found to be cancerous. The ureters were dilated, as well as the pelves of the kidneys, and there was chronic diffuse nephritis.

Removal of a Foreign Body from the Brain.—Dr. John A. Wyeth presented a drawing of a piece of fence-rail, measuring two inches and three quarters by three quarters of an inch, removed by Dr. Cross, of Alabama, from the brain of a negro four years ago. The patient had been thrown from a moving railway train against some rails, and was rendered unconscious. An eye lay upon the cheek, and was removed, and the piece of wood, which had penetrated the orbital plate, was removed from the brain. About a teaspoonful of brain substance was lost. The patient was now well and at work on the railroad.

Dr. W. M. Carpenter referred to two cases of fracture of the orbital plate and exposure of the brain in boys, resulting from the kick of a horse, seen by him in the country. In one the wound sloughed and the tissues could not be kept in apposition until swelling from erysipelatous inflammation brought them in contact, when they united, and the patient made a good recovery. The eyeball, which had been thrown out upon the cheek, was replaced, sight was lost, and the ball slightly flattened. The brain had been exposed. In the other case the wound was similar, but the eyeball was lost. Neither of the patients had since shown mental symptoms.

Large Fibroid of the Uterus; Hysterectomy.—Dr. A. P. Dudley presented a uterus, with a solid fibroid tumor weighing over nine pounds, together with the ovaries and tubes. The patient had not known that she had a tumor until about ten days before, when the speaker was asked to see her with another physician, on account of swelling of the right leg, and discovered the large abdominal tumor. She was doing well since the operation, which was performed the day before.

Misplaced Kidney.—Dr. I. Van Gieson presented the right kidney of a man aged thirty. It had been situated in the pelvic cavity, against the sacrum and behind the peritonæum, its superior apex being on a line with the pelvic brim, and its internal border on the median line of the sacrum. The renal artery was given off at the bifurcation of the aorta. At the hilum the relation of the vessels was as follows: The ureters were situated inferiorly; the arteries superiorly; the veins lying between them.

General Tuberculosis in an Infant.—Dr. W. P. Northrup presented the lungs and brain of a mulatto child, aged two years, which had been returned by the nurse to the asylum two days before its death. There was no further history than that it had been suffering almost uninterrupted convulsions; there was no diarrhœa and no vomiting. The following points were observed at the autopsy: A large tubercular nodule within the cerebellum, and lesions of general tuberculosis in the brain; extreme enlargement of the bronchial and mesenteric glands; extensive and advanced ulceration of Peyer's patches; the absence of tubercles in the spleen—an organ which was generally largely involved in general tuberculosis; lastly, tubercular meningitis, with extensive tuberculosis of the thoracic and abdominal organs. It was more common in such cases for the brain not to be involved.

A New Stain for Microscopic Work.—Dr. J. W. Roosevelt presented a specimen, and described a new stain which he had found satisfactory for micro-photographic specimens. It was practically an iron ink, made of ferrous sulphate and pyrogallic acid. The specimen was of a peculiar brownish gray, well suited for photographing.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of March 21, 1887.

The President, Dr. John Shrady, in the Chair.

The Aneurysmal Diathesis.—The President read a paper in which he pointed out some of the supposed indications of a predisposition to aneurysm. Every human being had within him tendencies to final decay. Those tendencies were not the same in all persons. In some, life ceased by decay advancing most rapidly in the circulatory system. They were much more prone to aneurysmal difficulties than others were. There ought to be some way of recognizing at once the aneurysmal diathesis, and he would point out some features which he thought were indicative of it. He would not approach the debatable ground of syphilis, nor even of rheumatism, as causes of aneurysm. These two diseases were referable to disturbed nutrition, and they should not be looked upon as causing the aneurysmal tendency any more than dropsy should be regarded as a disease, pure and simple. In a general way, the term sanguine temperament could be applied to persons who had a tendency to aneurysm. The development of the heart, and of the circulatory apparatus as a whole, also of the emotional nature in these persons, tended to an overstraining of the arterial system. The heart was large, perhaps somewhat hypertrophied from its earnest and continued work; it beat rather rapidly and forcibly. The build was square, the frame gained in height from the body rather than from the thighs; the neck was bulky and short, the face heavy and massive, the nose bulbous. The subject was muscular, with a relatively poor development of the osseous system. This diathesis might be cultivated by athletic sports, primarily overtaxing the heart and secondarily the remainder of the circulatory system. The diathesis might be latent from lack of circumstances to awaken it. The absence or retardation of the emotional temperament might altogether avert the final catastrophe. Aneurysm did not occur in early life, when the glandular system was undergoing the process of evolution, and when one's vocation had not intensified and kept up the tendency to this condition. The resiliency of the organs at this time was greater, and recovery from undue taxation of the circulatory system was much more prompt than in later years.

Dr. J. W. S. Gouley objected to the term hypertrophy when applied to enlargement of the heart, of the muscles, etc. It meant over-nourishment, whereas there was only just sufficient nutrition to meet the needs of the enlarged organ. It was better to use the simple term enlargement. When there was hypertrophy, as in dermatitis, inflammation developed, and finally decay or atrophy.

Dr. A. L. Carroll thought that, inasmuch as the enlargement of the heart was due to increased nourishment, it was not improper to speak of the condition as one of hypertrophy. If it were not enlarged, a lesser degree of nourishment would be required.

Removal of the Uterine Appendages.—Dr. A. P. Dudley presented the uterine appendages of a woman whom he had kept under observation and treated by various other measures for a year without marked benefit. A peculiarity in the case, and one which had rendered the diagnosis obscure, was the fact that one tube, after leaving the uterus in the usual direction, became deflected downward, and returned to the side of the uterus lower down, where it was spread over the enlarged and misplaced ovary. This relation of the tube and ovary would have made a cure by other measures than removal impossible.

A very Large Hernia; Diabetes.—Dr. Gouley related the history of a case in which a multiplicity of lesions was found at the autopsy. The patient was a woman, seventy-two years of age, who had for thirteen years been under his observation, being during that time bedridden. She had a hernia, and at the autopsy the inguinal ring was found to have attained to a diameter of nine inches; all the intestines were in the sac except the duodenum, cæcum, and rectum. She had had what the French called intermittent diabetes mellitus. She died of exhaustion and bronchitis.

Dr. A. Flint, who had seen this patient two or three times, said the case was interesting to him in two respects. First, it was the only case of saccharine diabetes of long standing which he had seen in which the intermittent element seemed to be independent of diet and treatment. He had seen several cases, however, in which sugar would disappear from the urine under treatment, to return again on the resumption of a faulty diet. The second point was the fact that there had not been the slightest indication of so-called diabetic coma. The only patients who had come under his observation and subsequently developed diabetic coma were those who had failed to carry out his instructions with regard to diet. He believed that the anti-diabetic diet guarded against diabetic coma.

Book Notices.

On Diseases of the Lungs and Pleuræ, including Consumption. By R. Douglas Powell, M. D. Lond., Fellow of the Royal College of Physicians, etc. Third Edition, rewritten and enlarged, with Illustrations. New York: William Wood & Company, 1886. Pp. xii–347. [Wood's Library of Standard Medical Authors.]

The present volume, as the author states in the preface, is an amplified edition of the work on consumption and on certain diseases of the lungs and pleura which was published in 1878. It has, however, been almost completely remodeled and new chapters have been added on the physical examination of the chest, on asthma, on the pathology of phthisis, on the complications of phthisis, on the surgical treatment of pulmonary cavities, on hydatids of the lungs, and on mediastinal tumors. By these additions the value of the work has been correspondingly increased. In the first chapter, on the anatomy and functions of the lungs, the author gives an interesting, though somewhat too brief, *résumé* of these subjects. We are particularly interested in the description of the apparatus of his own invention, designed to show the relations of the pleural cavities and mediastinum. In his description of the physiology of respiration due credit is given to our countryman, Dr. G. M. Garland, of Boston, for his interesting and valuable researches in pneumono-dynamics, and both here and in the sections upon the diseases of the pleura Dr. Garland's views are adopted almost in their entirety. The methods of physical examination of the chest are very carefully discussed in the next chapter, and nothing is wanting here, except that American readers will notice some differences from the nomenclature ordinarily used in this country. In the nomenclature of physical signs, Dr. Powell has adopted the recommendations of the report of the committee, of which the late Dr. Austin Flint was chairman. The chapter on diseases of the pleura, though somewhat too brief, a criticism which might be made in regard to the work in general, is very carefully written and contains a very lucid and reliable description of the clinical history and diagnostic signs of pleuritic effusion. Perhaps too much stress is laid upon the presence of Skodaic resonance, and too little upon the curved line of flatness first described by Dr. Ellis, in the "Boston Medical and Surgical Journal," and subsequently more scientifically explained by Dr. Garland. After a careful reading of the chapter, it seems to us either that the author has not entirely grasped Dr. Garland's argument, or else that his explanation of it is not sufficiently clear for the general reader. The subject of thoracentesis is ably discussed. Dr. Powell depends more upon the siphon for the extraction of fluids from the pleural cavity than most practitioners, and apparently attaches less value to the aspirator than we have been accustomed to ascribe to it. His rules for the treatment of empyema are very reliable, though the radical operation for chronic empyema, Estlander's operation, is scarcely referred to, and Langenbeck's operation of trephining the rib receives simply a passing notice. The statement that serous or purulent effusion in the pleural cavity may retard the development of phthisis pulmonalis will hardly be accepted, we think, by the majority of clinical observers. Our own experience has been that, in cases where relief is not obtained by surgical or other means, death from phthisis always supervenes, provided the patient survives long enough for its development.

The description of the pathology and treatment of bronchitis is written in about the ordinary routine we find in other text-books. Indeed, the whole section is rather short and unsatisfactory. The chapter on pneumonia is somewhat more extensive, but still inadequate to a full discussion of the subject. In discussing the ætiology of pneumonia, the author gives special prominence to the predisposing causes and climatic influences. He admits the existence of epidemic influences, but seems to regard cold as particularly the exciting cause. He discusses septic pneumonia, and refers to the researches of microscopical investigators into the subject of the existence of micro-organisms which may be the direct exciting cause of the disease, but we do not find, in the short account given of these researches, any allusion to the very valuable paper by Dr. Sternberg, of the United States Army, published in the "American Journal of the Medical Sciences" last year. Under the head of treatment, very careful directions are given for the hygienic management of the patient, and very little is said of the use of drugs. This is in accordance with the view of the most experienced practitioners in this country, that there are no drugs having a specific influence upon pneumonia. The routine practice adopted by many American physicians, of giving digitalis and carbonate of ammonium, should be deprecated, and those who adopt it might with profit read the rules for treatment laid down by Dr. Powell. Neither does he recommend the routine use of poultices, but states particularly that in old people and children they are sometimes apt to be oppressive and had better be replaced by embrocations covered with oil-silk. In our opinion, the majority of cases of pneumonia would be full as well treated without any external applications, their only object being to relieve pain, or to modify the intensity of any pleuritic inflammation which may accompany the fundamental disease. For overcoming this pain, when it occurs, the application of adhesive plaster, which is not mentioned by the author, is of the utmost utility, and is far less troublesome and involves less risk to the patient than the continual changing of poultices. In discussing the ætiology of phthisis, Dr. Powell gives a careful *résumé* of the more prominent doctrines that have been held by pathologists, mentioning particularly the names of Laennec, Buhl, Simon, Villemin, and Koch. He adopts the views of these writers as to the specific nature of the tubercular process, and gives careful directions for the identification of the tubercle bacillus. With Klebs and others, he does not believe that tuberculosis is contagious, except possibly under some very rare circumstances in which the poison is brought to the lungs of a healthy individual in a very concentrated form. Space does not permit us to go further into the description of this very valuable work. We can simply say that, as it at present stands, it is the best that we have in the English language, with the exception of Walshe's, over which it has the advantage of having been brought up to the most recent date. The only adverse criticism that we can make with regard to it is that it is not sufficiently comprehensive.

Hand-book of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume IV, Diseases of the Blood and Nutrition, and Infectious Diseases. Seventy-four Wood Engravings. New York: William Wood & Co., 1886. Pp. vi–407. [Wood's Library of Standard Medical Authors.]

The fourth volume of Dr. Eichhorst's "Hand-book" is devoted to diseases of the blood and nutrition, and to those of infectious origin. The subjects discussed in this able work are so important, and all the points connected with them are so carefully considered by the author, that it is impossible to give a satisfactory review without writing a book almost equal in size to the one before us. The diseases of the blood are treated of in a section which, though short, contains all that is known as the result of the most recent scientific investigation in regard to them. The subject of leucæmia is very judiciously handled, and the three varieties differentiated as clearly as possible in the existing state of our knowledge; in fact, the tendency seems to be to class them all together as varieties of the same affection, in which one or the other lesion may be predominant. In regard to the diseases of the spleen, the author says all that he is justified in saying at the present time. So little is known in regard to this organ that the pathological physiology can only be explained in the most incomplete manner, but such knowledge as we have is recorded in the pages before us. The diseases of nutrition, including gout, obesity, diabetes mellitus, diabetes insipidus, rickets, osteomalacia, and arthritis deformans, receive a somewhat more extensive notice. In discussing the ætiology of gout, the author does not consider the importance of the ingestion of sugar, which has received so much attention in this country, and has been particularly alluded to by Dr. Draper, of New York, in his article on gout in Pepper's "System of Medicine." Nor does he give any dietetic rules for its treatment. The iodide and salicylate of lithium are not mentioned, though colchicum, potassium iodide, lithium carbonate, and salicylic acid are spoken of as valuable remedies. The author also refers to the value of natural and artificial lithia waters. The description of infectious diseases leaves nothing to be desired. It is a very valuable work, well illustrated with many diagrams and drawings of microscopical appearances in various diseases, and is worthy of the careful perusal of every practitioner.

Nouveau traitement des affections des voies respiratoires et des intoxications du sang, par les injections rectales gazeuses. D'après la méthode du Dr. L. Bergeon, ancien Professeur suppléant a l'École de médecine de Lyon. Par le Docteur V. Morel, ancien interne des hôpitaux de Lyon. Paris: G. Masson, 1886.

In this interesting little brochure, portions of which we have already presented to our readers, will be found the history of the development of Dr. Bergeon's method for the treatment of phthisis and other diseases of the respiratory apparatus and toxic conditions of the blood by the introduction of gaseous substances into the lower intestine. The method, as is now well known, is based upon the observations of Claude Bernard, to the effect that certain poisonous substances, when introduced into the intestinal canal so that they can be absorbed by the radicles of the portal vein, carried to the right heart, and partially or entirely exhaled from the respiratory surface of the lungs, could be used with impunity in much larger doses than when introduced directly into the arterial system, because, when introduced in this way, so small a quantity of the toxic agent would reach the brain and spinal cord that the effect upon these viscera would be minimized. Bergeon, speculating upon the septic nature of tuberculosis and the effects of putrefactive decomposition of the caseous and other matters in the lungs of phthisical patients, concluded that, if some antiseptic substance could be brought directly in contact with the diseased tissue and morbid accumulations in sufficient quantity to destroy the activity of the bacilli contained in them, the disease might be cured. As hydrogen sulphide, which was one of the agents experimented with by Bernard, was also known to be a good disinfectant, he determined to make use of this gas in his experiments. As it is necessary to introduce the gas in small quantities, it was thought well to dilute it with some unirritating gas to facilitate the manipulation. For the accomplishment of this object he employed carbon dioxide. Other antiseptic substances have also been used, though not to the same extent as sulphureted hydrogen. M. Morel's pamphlet gives a description of the apparatus employed by Bergeon, with directions for its use, but these have already been so frequently described in this and other journals that it is not necessary for us to repeat the description here. The trials which have been made in this country by Solis-Cohen, Bruen, Osler, Hays, Kinnicutt, and many others have seemed, so far, to confirm the conclusions arrived at by the French observers, though it is doubtful whether the theory upon which Bergeon's treatment is based will prove to be correct. Dr. E. L. Trudeau, of Saranac Lake, N. Y., has recently published some experiments in the Philadelphia "Medical News" for April 23d, which seem to show that sulphureted hydrogen, used according to Bergeon's method, has little or no effect upon the vitality either of tubercle bacillus or of the other septic organisms contained in the caseous foci of tubercular lungs. Dr. Trudeau placed a small amount of fluid containing so many tubercle bacilli as to render it turbid in a test-tube, and then caused to bubble through this gas from one of the generators used in the new treatment of phthisis. After a prolonged treatment of the bacilli in this way he found that he could obtain pure cultivations from the fluid, and animals inoculated with it developed tuberculosis. His experiments with the *Staphylococcus pyogenes aureus* and the bacillus of blue pus gave a similar result. Dr. Trudeau's well-known accuracy in scientific experimentation of this kind renders it highly probable that his results will be confirmed by other observers, and, should this prove to be the case, some other explanation of the effects of sulphureted hydrogen than that given by Bergeon will have to be found. Whether the bright hopes entertained by those who have tried and advocate this method will be realized, it is now impossible to say. The method is so young, and the history of most of the cases treated extends over so short a period of time, that we are not, as yet, justified in forming any positive opinion either for or against it.

In this connection it is but fair to allude to a letter from Dr. G. A. Heron, of the London Hospital for Chest Diseases, which appeared in the "British Medical Journal" for May 21, 1887. Dr. Heron reports having treated a number of cases, the histories of which, however, he does not give, though he states that physical examination, and the presence of the proper bacillus in the sputa, showed them all to be genuine instances of tubercular consumption. "In not one single instance in which this treatment was carried out under my supervision," says he, "was there the slightest evidence of any permanent good result having been achieved. Beyond a diminution of the expectoration, an occasional lessening of the cough, and an unimportant lowering of the temperature, there was no evidence of any benefit having been derived from Bergeon's treatment in these cases of mine. As those results can be secured by means less unpleasant to the patient than Bergeon's method, I have ceased to employ it in the treatment of tubercular disease of the lungs." Our own view of the matter, however, is more hopeful than Dr. Heron's.

The Classification and Treatment of over Two Thousand Consecutive Cases of Ear Diseases at Dr. Sexton's Aural Clinic, New York Eye and Ear Infirmary. By Samuel Sexton, M. D., Aural Surgeon, and W. A. Bartlett, M. D., and Robert Barclay, M. D., Assistant Surgeons. Detroit: George S. Davis, 1886. Pp. 95. [The Physician's Leisure Library.]

This little work is intended to present a classified list of over two thousand consecutive cases treated by the author and his assistants at the Aural Clinic of the New York Eye and Ear Infirmary, and to bring into prominence the more practical features demanding treatment. The cases have been divided according to the anatomical location of the disease, and the whole subject is included under nine sections. In an appendix the drugs commonly employed in treatment and the instruments used are described. A complete classification of aural diseases is given at the end of the work. The aim of the author has been eminently practical, and he has succeeded in placing before the reader an excellent and concise sketch of the subject, interspersed with which are many valuable suggestions as to treatment.

BOOKS AND PAMPHLETS RECEIVED.

Notes on the Visceral Anatomy of Certain Auks. By R. W. Shufeldt, C. M. Z. S., etc. [Reprinted from the "Proceedings of the Zoological Society of London."]

The Dipnoan Brain. By Burt G. Wilder. [Extracted from the "American Naturalist."]

The Curability of Insanity and the Individualized Treatment of the Insane. By John S. Butler, M. D., late Physician and Superintendent of the Connecticut Retreat for the Insane, etc. New York and London: G. P. Putnam's Sons, 1887. Pp. 59.

Trephining in a Case of Inter-meningeal Hæmatoma, with Hemiplegia; Recovery. By S. T. Armstrong, M. D., Ph. D., Passed Assistant Surgeon, U. S. Marine-Hospital Service, etc. [Reprinted from the "Journal of the American Medical Association."]

Do Valor Therapeutico de Alguns Etiocraticos no Impalmdirmo Agudo. Pello Dr. Tiberio d'Almeida, Redactor correspondente da União Medica, etc. Rio de Janeiro: Lombaerts & Co., 1887.

Condition of Health in Cities. By J. L. Kaine, Milwaukee. [Reprinted from the "Wisconsin State Board of Health Report for 1886."]

Some Thoughts on a New Remedial Source, with a Working Hypothesis Suggestive of a More Radical Treatment of Chronic Diseases; also some Therapeutic Deductions from Comparative Pathology. By Charles Francis King, M. D., Ward's Island, New York.

A System of Gynæcology. By American Authors. Edited by Matthew D. Mann, A. M., M. D., Professor of Obstetrics and Gynæcology in the Medical Department of the University of Buffalo, N. Y. Volume I. Illustrated with Three Colored Plates and Two Hundred and One Engravings on Wood. Philadelphia: Lea Brothers & Co., 1887. Pp. xii-17 to 789. [Price, $5.]

Miscellany.

Pathological Difficulties.—The "British Medico-chirurgical Journal" quotes as follows from the "Life of Sir Robert Christison": "The worst part of the hospital discipline at St. Bartholomew's about 1820 was the regulation—or rather non-regulation—of the pathological dissections. We had vast opportunities for following that branch of professional study, for many cases of organic disease were admitted in their advanced stages. Mr. Stanley, the anatomical demonstrator, was an ardent pathologist, and leave from the relatives of the deceased person was not, as in Edinburgh, a necessary condition. There was, therefore, usually a race between the relatives and the students—the former to carry off the body intact, the latter to dissect it. Thus dissection was apt to be performed with indecent—sometimes with dangerous—haste. It was no uncommon occurrence that, when the operator proceeded with his work, the body was sensibly warm, the limbs not yet rigid, the blood in the great vessels fluid and coagulable. I remember an occasion when Cullen commenced the dissection of a man who had died suddenly one hour before, and when fluid blood gushed in abundance from the first incision through the skin, made in drawing his knife from the upper to the lower end of the sternum in the usual manner. Instantly I seized his wrist in great alarm and arrested his progress; nor was I easily persuaded to let him go on, when I saw the blood coagulate on the table exactly like living blood. At the hospital of La Charité, in Paris, a day seldom passed without at least one pathological inspection. I remember, nevertheless, having once met with a disappointment on three successive mornings. On the third I encountered at the door of the pathological rooms the following apostrophe from the 'Gardien': 'Encore, monsieur, point d'autopsie! Il y a depuis ces trois jours une épidémie de santé dans l'hôpital!'"

The Royal Medical and Chirurgical Society of London.—The "Union médicale" states that Dr. John S. Billings, of the U. S. Army, Professor Esmarch, and Professor Volkmann have been elected to honorary membership in the society.

The late Dr. Joseph C. Hutchison.—At a special meeting of the Board of Managers of the Alumni Association of the Long Island College Hospital, held July 20, 1887, convened to take action in the matter of the death of Joseph C. Hutchison, M. D., LL. D., late president of the collegiate department, the following preamble and resolutions were adopted:

Whereas, In the death of Joseph C. Hutchison the college has lost an able worker in his recent official capacity, and one to whom it was indebted for a more active part in the past as professor of surgery, and believing the reputation and honor of the institution rest in the hands of its teachers, it is

Resolved, That one who showed such boldness and fidelity in defending its best interests is worthy the highest praise and respect of this association.

Resolved, That the association extends its heartfelt sympathy to the family of the late Dr. Hutchison, and its condolence to the Board of Regents of the Long Island College in this our common affliction.

Resolved, That a copy of these resolutions be sent to the family of Dr. Hutchison, the Board of Regents, and the press.

[Signed] H. Messenger Ayres, } Committee.
A. H Buckmaster, }

Cocaine Intoxication.—Dr. George O. Williams (who will confer a favor by sending us his address) writes as follows: An attempt was made to cocainize a robust man, fifty-five years of age, for the removal of a small vascular tumor from the forearm. Three injections were given, at intervals of five minutes. The preparation used was an immediate solution of Squibb's hydrochloride, the quantity being estimated at half a grain. The anæsthesia was insufficient. Ten minutes after the last injection the patient complained of general numbness of the forearm, there was excessive dryness of the throat, the pupils became moderately dilated, vision was disturbed, even for short distances, so that he could not distinguish acquaintances at forty feet, and his gait was staggering. The symptoms did not become aggravated during the two hours that he was kept under observation, and he then drove six miles to his home. He subsequently stated that the disorder of vision and the pharyngeal dryness continued through the night, which was sleepless, and that unpleasant symptoms remained, though subsiding, for nearly a week.

Urgent Calls and the Censure of Juries.—"At an inquest in Bradford lately," says the "Lancet," "the jury were very severe on the medical man summoned for not attending before the death of the patient. Only medical men know how misleading often is the account given of cases, and how often it errs in conveying an exaggerated notion of the case. Only they, too, can realize how difficult it is to decide between two urgent calls. The coroner in this instance remonstrated with the jury, who toned down their verdict considerably. We have no wish to apologize for undue delay in fulfilling a promise to see a patient. Rather we would urge increased promptitude, and, where cases can not be seen immediately, to refer them to other medical men."

The Health of Boston.—During the week ending Saturday, July 23d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 15 cases and 3 deaths; scarlet fever, 7 cases and 1 death; typhoid fever, 19 cases and 2 deaths; measles, 50 cases and 4 deaths. There were also 33 deaths from consumption, 9 from pneumonia, 6 from whooping-cough, 4 from heart disease, 5 from bronchitis, and 7 from marasmus. The total number of deaths was 236, against 211 in the corresponding week last year.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality," for the month of June, that the whole number of deaths reported was 409, including 16 from cholera infantum, 15 from croup and diphtheria, 2 from diarrhœa, 2 from dysentery, 8 from typhoid fever, 1 from malarial fever, 2 from measles, 2 from whooping-cough, 1 from scarlet fever, and 2 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 21st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 2d corresponded to an annual rate of 18·1 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 9·4, and the highest in Manchester, viz., 29·2 in a thousand. Small-pox caused 2 deaths in Cardiff.

London.—One thousand three hundred and thirty-eight deaths were registered during the week ending July 2d, including 64 from measles, 13 from scarlet fever, 13 from diphtheria, 76 from whooping-cough, 9 from enteric fever, 52 from diarrhœa and dysentery, and 3 from cholera and choleraic diarrhœa. There were 199 deaths from diseases of the respiratory organs. Different forms of violence caused 57 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 16·6 in a thousand. In greater London, 1,637 deaths were registered, corresponding to an annual rate of 15·8 in a thousand of the population. In the "outer ring" 17 deaths from measles and 7 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending July 2d, in the sixteen principal town districts of Ireland, was 24·1 in a thousand of the population. The lowest rate was recorded in Drogheda, viz., 8·5, and the highest in Lurgan, viz., 35·9 in a thousand.

Dublin.—One hundred and ninety-nine deaths were registered during the week ending July 2d, including 30 from measles, 3 from whooping-cough, and 1 from typhus. Diseases of the respiratory organs caused 30 deaths. Five accidental deaths were registered, and in twenty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29·4 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 2d corresponded to an annual rate of 19·5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 14·6, and the highest in Paisley, viz., 28·2 in a thousand. The aggregate number of deaths registered from all causes was 487, including 1 from small-pox, 6 from measles, 7 from scarlet fever, 7 from diphtheria, 43 from whooping-cough, and 18 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending June 25th, corresponded to an annual rate of 22·6. The lowest rate was recorded in Hanover, viz., 12·9, and the highest in München-Gladbach, viz., 37.

Marseilles.—Nine hundred and nine-two deaths were registered during the month of June, 1887, including 4 from small-pox, 22 from enteric fever, 1 from scarlet fever, and 36 from diphtheria.

Buenos Ayres.—Eight hundred and forty-six deaths were registered during the month of April, 1887, including 7 from cholera, 35 from small-pox, 18 from enteric fever, 3 from scarlet fever, and 85 from diphtheria.

Nice.—Two hundred and sixty-five deaths were registered during the month of May, 1887, including 12 from small-pox and 4 from enteric fever.

Hobart Town.—Sixty-nine deaths were registered during the month of April, 1887, including 16 from enteric fever.

Tampico.—The United States consul, in his dispatch dated June 21st, states that "within the past seven days a virulent disease, pronounced by medical experts to be African small-pox, has made its appearance in this port, from which one death has resulted, and from latest reports seven cases are under treatment. The municipal authorities have taken measures calculated to arrest the spread of the malady by isolating the cases and adopting the usual sanitary precautions."

Merida, Yucatan.—The United States consul, in his dispatch dated May 14, 1887, states that "there were developed in this city yesterday four cases of yellow fever. This is not in itself a very alarming number, or much of an indication of a future epidemic, but at the same time I deem it wise to inform you of the above fact."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	July 2.	2,260,045	840	..	....	7	....	8	5	24
Glasgow	July 2.	545,678	200	..	....	....	....	....	1	4
Warsaw	June 25.	439,174	237	..	....	14	....	....	..	....
Calcutta	May 28.	433,219	170	17	....	....	....	....	....	....
Amsterdam	July 2.	378,686	156	..	....	....	....	....	....	4
Cairo	June 16.	374,838	334	..	....	5	....	12	....	1
Copenhagen	June 28.	290,000	127	..	....	....	....	1	....	6
Alexandria.	June 16.	231,396	134	..	....	1	....	2	....	....
Munich	June 25.	269,000	177	..	....	....	....	....	2	3
Edinburgh	July 2.	258,629	84	..	....	....	....	....	1	2
Palermo	July 2.	250,000	92	..	....	....	....	1	11	....
Havana	July 7.	208,000	167	..	25	11	....	2	....	....
Genoa	June 25.	179,326	106	..	....	3	....	....	1	3
Genoa	July 2.	179,326	108	..	....	....	....	....	....	2
Stuttgart	July 2.	125,510	43	..	....	....	....	....	....	1
Toronto	July 9.	120,000	23	..	.. ..	....	....	....	....	1
Havre	July 2.	112,074	54	..	....	2	....	8	....	....
Pernambuco	June 14.	111,000	67	..	....	....	....	....	....	1
Reims	July 2.	97,903	35	..	...	....	....	1	1	....
Leith	July 2.	72,297	31	..	....	....	....	....	2	1
Mayence	June 25.	65,701	28	..	....	....	1	....	....	....
Tampico	June 26.	7,300	9	..	....	1	....	....	....	....

UNITED STATES.

Key West—Yellow Fever.—Passed Assistant Surgeon John Guitéras, United States Marine-Hospital Service, reports, under date of July 21st, total number of cases to date, 135; deaths, 35. A majority of the new cases are native children.

Egmont Key, Florida (refuge station).—One death occurred from yellow fever on the 15th instant.

THERAPEUTICAL NOTES.

Divergent Views on Acetanilide are cited by the "Lancet" from the Hungarian journal, "Gyógyázat." One contributor, while unable to see that the drug really does any good in fever, and impressed with the fact that even three-grain doses may produce violent sweats, prostration, hæmorrhage, or cyanosis, thinks that in certain neuroses, where smaller doses will answer, it is to be recommended. In a case of severe trigeminal neuralgia, in which quinine, gelseminum, and morphine had produced but little improvement, three grains of acetanilide were given night and morning without effect, but then seven grains and a half were ordered, to be divided into ten powders, one to be taken every two hours. This produced great improvement, and in ten days the cure was complete. Two other patients, in whom pain was associated with meningo-myelitis and syphilitic tabes respectively, and who had been treated unsuccessfully in various ways, were much benefited by acetanilide. The other contributor has observed the most various effects after daily amounts ranging from a grain and a half to forty-five grains, including rigors, cyanosis, and irregularity of the heart's action; and he therefore thinks that the drug can not be recommended for general use.

The Treatment of Nasal Diphtheria.—Mygind ("Jour. of Laryngol. and Rhinol."; "Bristol Med.-chir. Jour.") quotes Reierson as believing that the pituitary membrane forms a nidus for micrococci more readily than almost any other mucous membrane, and as suggesting, in view of the unsatisfactory results of antiseptic injections and attempts to remove the false membrane with a forceps, the insertion of bougies containing:

Cocaine hydrochloride	⅕ grain;
Boric acid	15 grains;
Starch, Gum arabic, } each	1½ grain;
Glycerin	a sufficient quantity.

The amounts of the active ingredients may be reduced in the case of children. A bougie is to be passed into each nostril, and pushed along until it reaches the naso-pharynx. They melt in an hour, and others may then be inserted if relief does not occur after syringing the nostrils.

Phosphate of Sodium in the Treatment of Infantile Diarrhœa.—The "Therapeutic Gazette" calls the attention of its readers to a remedy which, although used by some practitioners, it thinks is still neglected by many—namely, phosphate of sodium. In the summer diarrhœas connected with a lack of digestive power, it remarks, in which the passages are either clay-colored or greenish, the drug often acts favorably when the ordinary remedies for diarrhœa seem to irritate rather than do good. To nursing children it may be given in the milk, ten grains in each bottle, or it may be given in a little water after a meal. It should always be used in repeated small doses, and not in single large doses. It is particularly serviceable where there is habitual constipation with occasional attacks of diarrhœa. It probably has some distinct specific action on the glandular organs of the intestinal tract.

Inhalations of Defibrinated Blood.—A Spanish physician, Dr. Escorileada, has contributed to the "Genio Médico-quirúrgico" (quoted in the "Gazette hebdomadaire de médecine et de chirurgie") an account of a case of extreme anæmia, with obstinate gastric derangements, in which inhalations of the spray of a mixture of 80 parts of defibrinated bullock's blood and 20 parts of a 75-per-cent. solution of chloride of sodium were prescribed, and improvement was observed on the fourth day. Cold affusions of sea-water were used at the same time.

Antipyrine in the Treatment of Chorea.—Wollner ("Münch. med. Woch."; "Gaz. hebd. de méd. et de chir.") has been led to prescribe this drug in chorea by reason of its influence on the nervous derangements incident to rheumatism. In the case reported, the attack of chorea followed a sudden disappearance of rheumatic symptoms. Sodium salicylate, potassium bromide, and propylamine having been tried in vain, antipyrine was ordered in doses of fifteen grains three times a day, and a cure was effected in twelve days.

Morphine and Cocaine in the Treatment of Tetanus.—Sober ("Genio méd.-quir."; "Gaz. hebd. de méd. et de chir.") records a case of idiopathic tetanus in which a five-per-cent. solution of the hydrochlorides of morphine and cocaine was used hypodermically with success. After three injections had been given (amount not stated), the trismus was diminished and the patient was able to execute certain voluntary movements. One additional injection, on the following day, was followed by complete recovery.

ANSWERS TO CORRESPONDENTS.

No. 13.—Apostoli's *excitateur bipolaire* is furnished by Collin, rue de l'École de médecine, 6, Paris, for 8 *fr.*

No. 14.—We think that Keene's cement will answer the purpose. It is made by mixing plaster of Paris with a saturated solution of alum, allowing the mass to harden, then calcining it anew and reducing it to a fine powder, when it is to be used like ordinary plaster of Paris.

No. 15.—In order that your name may be acted upon at the next meeting, it should be proposed to the Council by two members before the 13th of August. Before the meeting, which is to be held in New York, beginning September 13th, you should submit to the Council (through the secretary, Dr. Joseph Taber Johnson, 926 Farragut Square, Washington) an essay on an obstetrical or gynæcological subject. There are several vacancies.

No. 16.—We are informed that no more appointments are likely to be made at present.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, August 6, 1887.

Original Communications.

THREE CASES OF PREGNANCY COMPLICATED BY OVARIAN TUMORS.

OVARIOTOMY; RECOVERY.

By PAUL F. MUNDÉ, M. D.

The performance of ovariotomy during pregnancy is no longer of rare occurrence, and numerous cases are reported in the records of laparotomy. But the acceptance of this practice as not only the correct and proper as well as justifiable treatment, but as the only thing to do in the majority of cases, dates back scarcely farther than ten years, and even now some eminent obstetricians contend that the induction of abortion or premature labor is preferable. These gentlemen do not, however, seem to appreciate at their proper value the figures given by Olshausen (" Ovarian Tumors," 1877), who collected fourteen cases reported up to that time (the first by Burd, of England, in 1847), in which only two women died, and only four children were lost—*i. e.*, premature labor took place. In his work on " Diseases of the Ovaries " (1883), Lawson Tait quotes Spencer Wells as having operated ten times with one death, and states that he himself up to that time had operated eleven times with only one death, in his first case. Since 1877 the number of operations has rapidly increased, and in his last edition (1886) Olshausen reports a total of 82 operations, by 44 operators, with 74 recoveries. Four operators did 41 operations—Tait 11, Olshausen 8, Wells 10, Schroeder 12; in these, only two patients died (Tait's and Wells's). These results are the more remarkable since in several of the cases of recovery the uterus was accidentally wounded by the trocar (Wells, Cæsarean section; Hillas, the same; Byford, the same; C. C. Lee, abortion). This accident with a fatal result has occurred to Erskine Mason; Kob, of Stolpe, in Germany; Pollock, of England; and Lahs, of Marburg. (See Olshausen, *l. c.*, and Byford, "Am. Jour. of Obst.," 1879.)

No doubt other cases of ovariotomy during pregnancy have occurred than those included in Olshausen's list (where, by the way, only a few of the operators are named); but, so far as I am aware, with the exception of the case of Dr. C. C. Lee, already referred to, where the three months' gravid uterus was accidentally wounded by the trocar, the wound being sewed and abortion taking place several days later (" Trans. of the N. Y. Obst. Soc.," Nov. 1, 1882; " Am. Jour. of Obst.," 1883), no such case has been reported in New York.* Partly for this reason, and because my three cases illustrate very instructively several points as regards indication for operation and the different methods to be employed in these cases, I have decided to place them on record at present.

I must premise the histories by saying that only in two of the cases was ovariotomy done during pregnancy; in the second case (chronologically) premature labor was induced, a living child was born, and subsequently the ovarian tumor was removed. Three mothers recovered, and two of the children were born alive and survived; the third was lost by immature labor in the fifth month.

Case I. *Pregnancy of Five Months; Multilocular Ovarian Cyst; Ovariotomy; Recovery; Labor at Term.*—Mrs. P. S., thirty-two years of age, mother of four children, was seen by me in consultation with her physician, Dr. A. C. Benedict, of Yonkers, in September, 1886. The doctor had diagnosticated an ovarian tumor, and on account of its rapid increase, the constant vomiting of the patient, and her diminution of strength, he had tapped the cyst several weeks previously. It was now again refilling, and, fearing a return of the vomiting, he consulted me as to the advisability of a speedy operation. There was a suspicion of pregnancy, the patient having menstruated once four months before, while nursing her ten-months-old baby, but not since. I satisfied myself on examination not only of the presence of a multilocular cyst of the ovary, but also of an enlarged uterus, and did not hesitate to diagnosticate pregnancy. The patient's general condition was so bad that I advised feeding and stimulation *ad libitum*, and a postponement of the operation until the increase in size of the tumor or the return of the vomiting should call for speedy interference. She steadily gained strength and came to my office from Yonkers to see me. But a return of the vomiting within three weeks after my visit induced her to demand the operation at once, which was done on October 13th, at her home, under all antiseptic precautions, and with the assistance of my two associates, Dr. Grandin and Dr. Wells, and of Dr. Benedict and Dr. Warren, of Yonkers. The cyst was found largely adherent to the anterior abdominal wall, and was so friable that it was removed with some difficulty. It sprang from the right ovary. The left ovary was found healthy and was not removed. The uterus was carefully avoided. Fortunately the pedicle was long. Profuse oozing from torn adhesions on the anterior abdominal wall was checked by deep abdominal sutures approximating the bleeding surfaces. Complete closure of the wound with silk. Catgut suture of the peritonæum. Duration of the operation fifty minutes. Weight of the tumor and fluid about twenty pounds.

Almost immediately after the operation the vomiting recommenced and continued in spite of all that Dr. Benedict could do. He telegraphed for me, and I went to Yonkers on the third day and found the patient in danger of dying from inanition, with a perfectly normal temperature. I at once dilated the cervical canal gently but thoroughly with my index finger, and advised a hypodermic of morphine over the epigastrium. The vomiting then ceased, and the recovery was uninterrupted. About March 5th she was easily delivered of a full-grown child.

Two days after delivery she again began to vomit, having been perfectly well and regular in her bowels since the operation. The abdomen also became tympanitic, and the bowels ceased to respond to enemata or laxatives. The vomiting continued, and on March 13th became feculent. I then saw her again with Dr. Benedict, diagnosticated intestinal obstruction, and advised, if renewed attempts to move the bowels by large turpentine enemata failed, immediate laparotomy. To this latter advice they could not at once make up their minds, especially as there was a lull of a day or two in the vomiting. But finally, when it recommenced and was purely feculent, they consented, and on March 17th I operated, at a time when the patient's condition was so low as to leave very little hope of saving her.

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* I should say that at the meeting of the New York Obstetrical Society, May 3, 1887, when I briefly reported my third case, Dr. Chambers mentioned for Dr. Thomas one recent case of ovariotomy during pregnancy in the third month with recovery, the pregnancy continuing; and Dr. Lee two additional cases, one patient dying from septic peritonitis, and the other, three months pregnant, recovering.

Much valuable time had unfortunately been lost. The intestines were enormously distended with gas, fully six feet of the small intestine was black, and I had no trouble in finding numerous adhesions. The main point of constriction, however, was in the right iliac fossa, where a firm band of the thickness of a lead-pencil almost completely constricted the gut. After tying and dividing all the constrictions and adhesions, some eight or ten in number, I returned the intestines to the abdominal cavity and closed the wound. The patient recovered consciousness and speech, but died sixteen hours later of exhaustion. I think she could have been saved if the operation had been done a week sooner.

The displacement of the intestines by the emptying of the uterus through delivery must, I think, in some way have led to a loop of small intestine passing under the constricting band. The danger of intestinal obstruction by adhesions or constricting bands after laparotomy is attracting more and more the attention of our laparotomists, and the prevention of such adhesions is one of the problems still to be solved. By carefully replacing the omentum over the intestines, by early and regular intestinal evacuation after laparotomy, and perhaps by Peter Mueller's suggestion of applying carbolized oil or vaseline or iodoform to the pedicle and adhesion stumps just before closing the abdominal wound, such subsequent adhesions may possibly be prevented.

Case II. *Large Multilocular Dermoid Tumor; Pregnancy at Seven Months; Induction of Premature Labor; Living Child; Ovariotomy Five Weeks after Delivery; Recovery.*—Mrs. C. S., forty-one years of age, multipara, consulted me May 7, 1886, for an abdominal tumor, which I pronounced to be an ovarian polycyst, probably partly solid. Her umbilical circumference was forty-four inches. As I was about to go abroad, and the tumor was growing very slowly, I advised her to wait until the autumn, and then return to the city from her home in New Hampshire and have it removed.

In the autumn she wrote me that she was four months' pregnant. I advised her to come on at once and have the tumor removed. But I heard nothing from her until January 18, 1887, when she came to my office. She was then fully six months pregnant, and I deemed it wiser for her to have premature labor induced as soon as the child was viable, and defer the ovariotomy until a later period. Accordingly, on February 25th, when her size had become such as to materially incommode her, I induced labor by inserting and leaving a catheter in the uterus, and the subsequent use of Barnes's bags. A living child, weighing four pounds and a half, was born, which was brought up by hand, and eventually throve well.

On March 30th I performed ovariotomy, removing a dermoid cyst of the right ovary, weighing twelve pounds, and containing numerous smooth, yellow balls of the size of hazel nuts floating in a pea-soup-colored fluid. These balls were examined by Professor Welch, of Johns Hopkins University, Baltimore, who pronounced them a great rarity, there being only two other cases on record—one by Rokitansky, Sr., the other by Routh, of London. Since then Christian Fenger, of Chicago, has reported a similar case from his own practice. Professor Welch states that the balls are composed of sebaceous matter, each ball containing one hair. The manner of their formation and of their acquiring so uniform and regular a shape, as by attrition, is a mystery.

The second ovary, being cystic, was also removed. Recovery was uninterrupted until the third week, and the patient was out of bed, when she was suddenly and mysteriously attacked with acute pyelonephritis, which for a time jeopardized her life, but from which she gradually recovered perfectly, returning home in June.

Having this spring had two cases of acute nephritis with pus and albumin in the urine, both occurring three weeks after laparotomy, in which ether was the anæsthetic used, and there being no other cause for the nephritis discoverable, I have done my last ten or twelve laparotomies under chloroform, without observing any kidney complications.

Case III.—*Dermoid Tumor of Each Ovary; Chronic Peritonitis from Rupture of One Cyst; Pregnancy at Five Months; Ovariotomy; Immature Delivery; Recovery.*—Mrs. B., twenty-three years of age, four months in her second pregnancy, consulted me April 2, 1887, by advice of her physician, Dr. S. Glück, for a bearing-down sensation, which, she having had a very difficult first confinement, caused her more mental uneasiness than physical pain. I found the pelvic cavity filled with an elastic, immovable mass, the cervix high up on the left, barely recognizable by the finger. Through the abdominal walls an indistinct enlargement could be felt on the right side reaching to the umbilicus; on the left side a solid tumor of the size and shape of the spleen. A subsequent examination, under chloroform, at the home of the patient, showed that the tumor in the pelvis was undoubtedly an ovarian cyst, and the tumor in the right side of the abdomen the gravid uterus. The nature of the small, hard tumor on the left side was doubtful. I made the diagnosis of an impacted ovarian cyst in the pelvis, with pregnancy of about five months, and advised speedy laparotomy as the best means of securing not only a continuation of pregnancy, but also a possibility, if pregnancy should not be interrupted, of permitting the birth of a living child *per vias naturales*, which, under present conditions, was, even at that early period, impossible. The other alternatives were, first, to puncture and empty the pelvic tumor, and take the chances of its refilling before the time for natural labor came on; second, the induction of abortion at once, which would, of course, deprive the patient of the possibility of bearing a viable child; and, third, the postponement of operative interference until at or near term, when ovariotomy, or probably Cæsarean section, might be called for.

Considering the excellent results obtained by ovariotomy during pregnancy in the many reported cases, as regards the persistence of pregnancy and the recovery of the mother, and the dangers and uncertain results of puncture of the pelvic cyst and Cæsarean section or ovariotomy at term, I advised early removal of the ovarian cyst, with the hope that the pregnancy would not be interrupted. Realizing the grave character of the case, I asked for a consultation with Dr. T. G. Thomas, who, after a thorough examination, concurred in my opinion.

Therefore, on April 23d, I operated at the patient's residence, all the usual antiseptic precautions (removal of carpets, curtains, furniture, fumigation of room, spray several hours before, etc.) being observed, with the assistance of Dr. Glück, who kindly administered the chloroform, and my associates, Dr. Grandin and Dr. Wells.

In reaching the peritonæum the first difficulty was encountered, for the, as it proved, very much thickened peritonæum was hard to recognize. Only careful dissection prevented my injuring the bladder, which proved, when the peritoneal cavity was opened, to be attached to the peritonæum and the tumor on the left side, and was thereby drawn up nearly to the level of the umbilicus. I first removed this left tumor, after ligating and severing its attachments to the bladder, and found it to be a solid dermoid tumor filled with *black* hair. On searching for the pedicle of the right or intra-pelvic tumor, I was at first puzzled to find it, and thought I had to deal with an intra-ligamentous cyst which had grown down into the pelvic cavity. My only choice seemed to be to split its capsule and enucleate it, or else to open and drain it through the vagina. But, on following the course of the Fallopian tube down toward the tumor, I suddenly grasped a large flaccid sac lying loose in the abdominal cavity, which, on lifting it up, I found contained a rent into which I could pass my hand. The escape of abundant fluid from the peritoneal cavity when it was first opened was now explained. I had believed this fluid to be ascitic, the result of the chronic peritonitis, which was but too evident. But now I saw that this fluid was the contents of the ruptured right cyst (the escape of which months before—I afterward learned that the patient had had an attack of peritonitis one year and a half before—had caused the thickening of the peritonæum and the adhesions). Drawing on this flaccid sac, I was able to dislodge the pelvic tumor, which was multilocular and semi-solid, and to bring it through the abdominal incision. Its pedicle was very broad and vascular, and I was obliged to clamp, tie, and sear it so close to the uterus that I at once expressed the fear that that organ in its gravid state would not bear such active interference. This pedicle, like that of the left side, was dropped, and the abdominal cavity was thoroughly washed out with a solution of boric acid, 1 to 1,000, poured in from a pitcher. The abdominal wound was then closed by running catgut sutures applied in layers, beginning with the peritonæum. No drainage tube was used, although the last sponge on a holder removed viscid fluid from Douglas's pouch. But, as the large gravid uterus interfered with the insertion of a glass drainage-tube, and as none but a curved or flexible tube would have answered, which was not at hand, it was thought best to take the chances of omitting drainage, trusting to the non-receptivity of the thickened peritonæum to septic influences, an assumption which proved correct.

The next three days were anxious ones, for the patient began to vomit soon after recovering from the chloroform, and nothing apparently could be given to check this distressing symptom. On the third day uterine contractions set in, in spite of the hypodermics of morphine which had been given at intervals since the operation to keep the uterus quiet, and on the fourth day I was suddenly called to find the whole intact ovum escaping from the vulva. Fortunately, the uterus contracted well, and no hæmorrhage took place; therefore no ergot was given. Several hours later the temperature rose to 101°, the pulse to 130; the patient was dreadfully collapsed, the tongue being dry and red, the lips parched and chafed, and the blood apparently stagnating in the extremities, through the skin of which the purple veins could plainly be seen. The vomiting also persisted. I felt obliged to consider these symptoms due to septicæmia, and confess that I feared a rapid fatal issue. I ordered five drops every hour of a two-per-cent solution of cocaine for the vomiting, and hypodermics of camphor and ether, and left the patient late in the evening, feeling doubtful as to whether I should find her alive next morning. But, after all, these threatening symptoms must have been due entirely to mental shock, produced by the disappointment of the patient at losing her child with no prospect of another, this shock acting on a system weakened by three days' vomiting, for, after a few doses of cocaine, the vomiting ceased, reaction came on, and on the next morning I found the patient visibly better. From that time on convalescence was undisturbed, and the patient left her bed on the twentieth day. She is now a perfectly well woman. The uterus has regained its normal position in the pelvis, but is very little movable owing to the adhesions of the pedicles of the tumors and the chronic peritonitis.

The tumors were both dermoid, the left one being solid—that is, filled with sebaceous matter and *black* hair—the right one being multilocular, one sac containing *blonde* hair, the remainder presenting the usual appearances of an ovarian polycyst. The contents were so thick that an attempt to drain them through the vagina would have failed. This latter (pelvic) tumor fortunately had no adhesions whatever.

That the patient should have conceived with both ovaries so fearfully degenerated is indeed a marvel, and should teach us a lesson to preserve even portions of ovaries with the pervious tube (if the latter is pervious) during ovariotomies.

These three cases of pregnancy complicated by ovarian tumors illustrate several phases of this rare combination, the first being an instance of ovariotomy during pregnancy, with preservation of the fœtus till term and recovery of the mother; the second, the induction of premature labor, with the delivery of a living and still living child, and the early subsequent removal of the tumor, with recovery; the third, successful removal of the ovarian tumors, but interruption of gestation in consequence. So far as the chances of recovery from ovariotomy during pregnancy are concerned, they are fully as good as when no pregnancy exists. As regards the continuance of gestation, in the early months usually the prospect is also favorable. In the later months, when the child is viable and likely to survive, the induction of premature labor would appear to be preferable, with subsequent ovariotomy. When the operation is not urgent, it is well to defer it until the child has attained viability, in case the operation should bring on labor. I regret that in my third case the peculiar seat of the tumor in the pelvic cavity, and the fear of extensive adhesions and an increase in difficulty of the operation, if it was deferred, obliged me to advise and perform it when the child was not yet viable. In another similar case I think I should take the chances of waiting until the seventh month, in order to secure a viable child in any event. But the greater difficulty of the operation, and the increased danger from septic infection and uterine hæmorrhage at a later period of gestation, must also be borne in mind in deciding the question whether it is wise to postpone the operation. For, after all, the mother's life is always the chief consideration. Tapping the cyst is not to be advised, even as a means of temporary benefit, except in cases where immediate relief from distension is called for, and ovariotomy can not at once be performed.

20 West Forty-fifth Street, *June 30, 1887.*

The Health of Boston.—During the week ending Saturday, July 30th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 5 cases and 2 deaths; scarlet fever, 8 cases and 1 death; typhoid fever, 4 cases and 2 deaths; measles, 18 cases and 8 deaths. There were also 33 deaths from consumption, 6 from pneumonia, 1 from whooping-cough, 11 from heart disease, 3 from bronchitis, and 12 from marasmus. The total number of deaths was 289, of which 111 were of children under 1 year of age, and 38 of children between the ages of 1 and 5. There were 75 deaths from cholera infantum.

FURTHER RESEARCHES UPON THE PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE.*

From the Biological Laboratory of the Johns Hopkins University.

By FRANK DONALDSON, Jr., B. A., M. D., Baltimore,
SOMETIME SCHOLAR IN BIOLOGY IN THE SAME; FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, ETC.

In a paper read before the American Laryngological Association, in June, 1886, I related a series of experiments undertaken to test the accuracy of some work by Hooper, of Boston, on the respiratory function of the human larynx, the results of which had been given to the society the year previous.

My own conclusions differed widely from his. This present article deals with a further series of experiments upon this important question, which were this time performed to test the accuracy *of my own observations.*

The following statements will be found ("American Journal of the Medical Sciences," July, 1886, p. 96) in the body of my article: "My experiments were undertaken to test the following points:

"1. Is it true that the constrictors (of the larynx) cease to act during *profound* narcosis, or when *consciousness* is *suspended* from any cause?

"2. Do we, as Hooper says, *always* get *abduction* of the arytenoids (dilatation of the glottis) on stimulation of the recurrent nerves, when *consciousness* is *suspended?*"

I would call special attention to the wording of these sentences, for it (the wording) has an important bearing upon the chief points of this paper.

Again (p. 100, *ibid.*): "*My* conclusions from my *first* series of experiments are:

"1. That the constrictor muscles of the larynx *do not cease to act during profound narcosis, or during suspension of consciousness* from any cause, or, in other words, that their action is not dependent upon volition in the sense that they *lose their power* with the loss of volition.

"2. That we do not *always* obtain abduction of the arytenoids when *consciousness* is suspended."

From my *second* series of experiments I concluded (*ibid.*, p. 100):

1. That the *abduction* obtained was not reflex.

2. That *abduction* was in no way dependent upon the *unconsciousness* of the animal, as held by Hooper.

3 (and most important in view of my later experiments). That it was with weak stimuli *only* that *abduction* of the cords took place, which movement of *abduction* gradually passed into one of *adduction* as the strength of the stimulus was increased.

4. That this result *invariably* followed, whether the animal was *slightly*, *deeply*, or *thoroughly* narcotized, whether the animal was *eupnœic* or *apnœic*, when the dog had had his *medulla destroyed*, and after *local death* had taken place.

5. That the rate of stimulation did *not* affect the general result.

6. That, after strong and constant stimulation, the *abductor* muscles became worn out, and ceased to answer to stimuli.

7. That in apnœa the cords came nearer the middle line, the abductors receiving no stimulus in this condition from the respiratory center; and, finally, that,

In the first series of experiments, *adduction* resulted under all conditions of *unconsciousness;** in the second, *abduction* in all conditions of *consciousness* or *deep narcotism*, provided the stimulus was weak.

In the discussion which followed the reading of my paper Dr. Hooper used the following language, to which I would call special attention. Hooper said:

> "Dr. Donaldson had laid great stress on what he called his (Dr. Hooper's) theory of the innervation of the larynx. He was not aware before that he had had a theory on the subject.
>
> "In his paper he had detailed the results obtained from certain experiments, and, in passing, offered, more as a suggestion than anything else, that they might be explained in a certain way. The reader had expressed agreement with him in one point in which he least expected support,† and had disagreed with him upon *points that admitted of no doubt* (the Italics are mine), and were so firmly established by repeated experiments that he was convinced that the reason Dr. Donaldson had *failed* to confirm his (Hooper's) observations was due to some *error in his method* of *experimentation.*
>
> "The phenomena which Dr. Donaldson's (perhaps) hasty experiments had failed to show him could be demonstrated with ease, and repeated as often as might be desired. He understood with regret that Dr. Donaldson's paper was to appear in the July number of the 'American Journal of the Medical Sciences,' *since it contained so many statements which were inaccurate.*" (The Italics are mine.) ‡

So much for Dr. Hooper's criticism of my experiments. It will now be necessary to give in detail the chief arguments of his paper, and afterward the conclusions which he draws from his experiments. Hooper says (p. 13, "Transactions" of this society, June, 1885):

> "It is a familiar fact to all that, if anything other than air finds its way into the larynx, it produces, through reflex action, a sudden closure of the glottis. It is equally certain that, under normal conditions, the same contraction of the laryngeal muscles may be instantly called forth by direct stimulation of one or both of the recurrent nerves. Now, it may with reason be asked, How is it that this constricting action of the phonatory muscles is brought about, if it be true that the nerve fibers animating the dilators of the glottis are the stronger and the more numerous? Why should we not get *ab*duction of the vocal bands, instead of *ad*duction, on irritating the recurrent nerves? The phonatory muscles are to the respiratory muscles as five to two, and the closure of the glottis has always been ascribed to the superior numerical strength of these constrictors. Yet if we compare, bulk for bulk, the muscular fibers which compose the five muscles of phonation with those of the two respiratory muscles, we do not find that they are much, if any, in excess of the latter, and we venture to think that there is

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* Read before the American Laryngological Association at its ninth annual congress.

* The stimulus used was very strong.

† On further experiment, I am forced to change my opinion on this point (the supposed proclivity of the abductor fibers to disease), and I now agree with *Semon and Horsley.*

‡ I should add that I (with others) put a wrong construction on *two* sentences in Hooper's paper; but this did not in the least affect the value of my observations.

some other factor concerned in this phenomenon apart from mere muscular force. It may be sought, perhaps, in this important difference between the respiratory and the phonatory function of the glottis—namely, that while the respiratory muscles are ever on the alert, holding the glottis open during the entire life of an individual, in his waking as well as in his sleeping hours, *the phonatory muscles, on the other hand, are more dependent upon the consciousness of the individual in order to respond to any irritation.* To explain: The phonatory function of the phonatory muscles could, as far as life is concerned, be dispensed with. Not so their constricting action with the view of excluding the passage of foreign bodies to the lungs. The constrictor muscles of the larynx are the sentinels that guard the approach to these vital organs. But *they cease to act if the animal is in profound narcosis;** they are asleep, so to speak, on their watch. A man in the condition known as 'dead drunk,' lying, let us suppose, with his mouth open, would offer no obstacle to prevent any living insect that chanced his way from crawling in and out his mouth, or meandering around in his larynx *à volonté*, without exciting reflex contractions of its muscles. The power of ether, chloroform, and other anæsthetics to impair the action of these constrictors is too well known to need mention. To carry this line of thought a little further should we not expect that, provided we could preserve the organic life of an animal while its *volition was at the same time completely abolished*—should we not expect, we ask, under these circumstances, to get a *dilatation* of the glottis on irritating the recurrent nerves instead of a closure, for the posterior crico-arytenoid muscles are muscles of organic life? *Indeed, we believe we should,* and *we submit the following experiments in support of that belief.*"

Again (p. 16 of "Transactions") Hooper says, after describing an "unexpected *abduction*":

> "On the assumption that the *degree* to which the animal was *narcotized* might have something to do with these phenomena, a larger quantity of ether was administered, and, after the dog was profoundly under its influence, *abduction* of the vocal band was obtained. On removing the ether, the abduction became less and less as the animal *regained consciousness*, when finally a contraction of the glottis supervened.
>
> "Again, the intensity of the stimulus used 'was from 1 to 8, never over 10, and generally about 3'" (p. 17, *ibid.*).

Briefly, from his series of experiments, he concluded:

> "1. That the *constrictor* functions of the larynx are dependent upon *consciousness.* (See above.)
>
> "2. That stimulation of the recurrent nerve always produces *abduction*, provided the animal is deeply under ether; that, on removing the anæsthetic, the dilatation produced by stimulation becomes less and less as the animal *regains consciousness*, until, finally, *contraction* of the glottis follows."

In other words, Hooper concluded that the tendency of the glottis was to remain widely open, and that any given stimulus from the recurrent nerve would bring the *abductors* into action, unless *volition* (*the will*) came into play, when it would produce *adduction.*

Finally, on page 17, near the bottom, he says (the Italics are mine):

> "These phenomena were observed *after the recurrent nerve had been cut* and its peripheral end stimulated, as well as when the nerve was intact," and "irritation of the recurrent nerve was followed by the *usual* abduction of the vocal band, an action (page 18) we have become accustomed to regard as the normal, *provided* the *consciousness* of the animal had been *completely abolished* by sulphuric ether."

Now, the points in Hooper's paper to which I would direct attention are:

1. In no place in his whole article does he *once* allude to any *peripheral* effect of *ether* on the laryngeal muscles.

2. The abduction obtained by him was in every case attributed to *suspension of consciousness* (see statements quoted above), and not to *any peripheral effect* of that drug.

3. He distinctly states that he got his result on stimulation of both the *cut* and *uncut* nerve.

4. He failed to see that *by the cutting* of the *nerve he once and for ever suspended consciousness* for the *larynx*, and that no amount of ether could suspend it further. He failed to see that any effect following its administration must of necessity have been a *peripheral one.*

And therefore Hooper's conclusion on page 18—that *abduction* was *normal provided consciousness* was *abolished*—was as extraordinary as it was unjustified and unscientific.

In this connection, Semon and Horsley say* that it was remarkable that Hooper should have overlooked this *peripheral* effect of ether, for he got his results with the nerve *cut* as well as uncut.

That Hooper was dealing with a peripheral effect, *though he thought it central,*† even after he had *cut* the nerve, and no impulse could get to the larynx from the cortex, is noticed, too, by H. P. Bowditch, in an article‡ in the "American Journal of the Medical Sciences" for April, 1887, and upon this point he lets Hooper down very gently, thus:

> "Dr. Hooper recorded the observation that stimulation of the recurrent nerves of dogs causes a dilatation of the glottis when the animals are thoroughly etherized, but a constriction when they are slightly or not at all under the influence of the drug.
>
> "As the *phenomena (abduction) occurred equally well whether* the *stimulation was applied* to *the intact nerve* or *to its peripheral end after section*, it was *evident* that the action of the drug must be either upon the *peripheral* portions of the nerve or upon the muscles." (The Italics are mine.)

Dr. Bowditch says: "It was evident." It could not have been to Hooper, for he makes not the slightest reference to any such fact, invariably attributing his abduction to *suspension of consciousness.* Again, Hooper says the stimulus he used was generally at 3. I am now in a position to state that in ninety-nine cases out of a hundred any stimulus having the strength of 3 will always give *adduction* of the vocal cords.

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* The Italics throughout are mine.

* "On an Apparently Peripheral and Differential Effect of Ether upon the Laryngeal Muscles," "British Med. Association," 1886.

† We can not give any greater proof of this fact than his statement on page 18—viz.: "Just in proportion as *consciousness* was *deadened* the adductors became sluggish," and so on.

‡ "The Action of Sulphuric Ether on the Peripheral Nervous System."

But to return to Dr. Bowditch's paper. On page 453 he says:

> "Donaldson, though unable to obtain the ether effect, did observe a dilatation of the glottis when the recurrent nerve was irritated with *very weak* stimuli."

Now, there is not one word in my paper on the "ether effect." I was combating Hooper's "consciousness theory," and endeavoring to get at the physiology of the recurrent nerve; I was *not* investigating the *peripheral* effect of *ether*. I stated very plainly that *whether* the animal was narcotized or not, whether it was alive or dead (locally), the *opening* or the *closing of the glottis depended* upon the *strength* of the *stimulus*.

I do not for one moment deny that ether does *prolong* abduction and in many cases does away with all adduction; this statement is confirmed by the experiments about to be related. But there are several statements in Dr. Bowditch's paper (which, however, I take it, are to be credited to Hooper, as he is quoted as part author), and these I desire to greatly emphasize (the Italics are mine):

> 1. "It has not been found possible in these experiments [done by Hooper, I suppose he means] to obtain a *dilatation* of the glottis by *any* stimulation of the recurrent nerve *unless* the animal was under ether."
>
> 2. "When the animal is etherized, the effect of irritating the nerve varies with the depth of the narcosis and strength of the stimulus."
>
> 3. "If the animal is thoroughly under the influence of the drug, *dilatation* of the glottis is *produced* by *irritations* of *all* intensities."
>
> 4. "The observation of Donaldson, that dilatation is produced by feeble, and contraction by strong, stimuli, is therefore correct for a *certain stage* of etherization, but for the *unetherized* animal *his statement has not been confirmed*. . . . In view of *Hooper's*" (the Italics are mine) "failure to obtain dilatation on *unetherized dogs*, *it seems probable* that in *Donaldson's cases* the drug had not *been completely eliminated*." (*Ibid.*, pp. 453, 454.)

Before passing to my present series of experiments, I would say that, with due deference to the Boston observers, they have somewhat shifted their ground. Not a reference is made to the rôle which Hooper said *consciousness* played in the closing of the larynx, and a great deal on the peripheral effect of ether, to which Hooper, in the paper I originally criticised, made no allusion, and which, indeed, he entirely *failed* to *notice*.

To recapitulate, Hooper says, then:

First. That *adduction* was dependent upon *consciousness*.

Second. That *abduction* can not be obtained from *any* stimulus *without* giving ether.

Third. That my statement (see Dr. Bowditch's paper, page 453) as to the effect of weak and strong stimuli is *not true* except with ether.

Fourth. *That my original paper is full of inaccuracies.*

So much for what Hooper says.

He does *not* say a word about the *peripheral effect* of ether, though he had *cut* the *nerve*, and it was plainly what he was dealing with.

(*To be concluded.*)

SALOL AND ICE-WATER ENEMATA

IN THE TREATMENT OF DIARRHŒA, DYSENTERY, AND INTESTINAL INFLAMMATION.

By A. H. GOELET, M. D.

It is alleged for salol that it passes through the stomach unchanged, and that when it reaches the small intestine it is changed into salicylic acid. Consequently it has been recommended for the treatment of rheumatism and as a febrifuge of the same rank as antipyrine and antifebrine.

Taking into consideration the change which takes place in the intestines, the thought occurred to me about two months since that it would be an excellent remedy for the antiseptic treatment of bowel complaints, including typhoid fever; and, acting upon this idea, I prescribed it in the first case which came under my observation:

> The patient was an adult who had had a bad diarrhœa for three days, and had been treated for thirty-six hours with bismuth, ext. pancreatis, and bicarbonate of sodium, and a milk diet, with no benefit. I ordered gr. x of salol to be taken every two hours, and made him promise to report the next morning, which he did, saying that he had come only because he had promised to do so, but he was all right and needed nothing else. The movements had ceased after the second powder, as had also the pain and wind cramps. I ordered him to take a powder an hour before his meals for two days and then report again. The diet was not restricted, except that fruit and vegetables, other than potatoes, were forbidden. He reported according to promise, and his movements had been natural and once a day only, showing no constipating effect of the medicine, a condition which is often very troublesome after the opium treatment.

Encouraged by this result, I next tried it in a case of acute indigestion or diarrhœa and vomiting in a child fifteen months old:

> I ordered gr. j to be given every two hours, dry on the tongue, with a teaspoonful of water after it. The vomiting ceased immediately, and in six hours the diarrhœa had ceased. Ordered the powders to be continued every four hours. The next day the stools were natural and the powders were discontinued.

Case after case could be cited in substantiation of the correctness of this treatment, but it is sufficient to say that it is the only purely satisfactory remedy I have ever used in these cases, and I hesitate to trouble readers with a citation of so many cases so exactly similar in result, and I must devote some space to the important matter of dosage in children, which I have learned only from an extensive experience, as the remedy has never been recommended for such use before, and the adult dose only was given in the pamphlet which was issued with the introduction of the drug in this country.

While the adult dose is ten grains, the dose is much larger in proportion for children, and varies very considerably with the age. For a child six months old or under the dose is half a grain every two hours. From seven to ten months old the dose may be from one half to three quarters to one grain, according to the severity of the symptoms and the strength of the child. A child one year old may be given from a grain to a grain and a half, according to the severity of the symptoms. A child fifteen to eighteen months old may take a grain and a half to two grains. At the age of two years the dose would be two grains. For three years of age the dose would still be two grains to two grains and a half. Children of four years would require only two and a half to three grains, and those of five to six years would require only three or three and a half grains. And from this age to ten it is seldom necessary to give more than five grains. It is always given to commence with every two hours, and as the symptoms are relieved the interval is lengthened to three or four hours. As in the first case, I sometimes give it three or four times a day for twenty-four or forty-eight hours after the subsidence of the trouble.

The application of salol in bowel complaints is very extensive. I have used it in all with the same pronounced success. In typhoid fever, every three hours, there is nothing better. While I can not say that it shortens the attack, it relieves the excessively disagreeable odor of the fæces and the tenesmus and flatulence produced by the accumulation of wind in the colon. In fact, I know of nothing which so satisfactorily relieves the accumulation of wind in the bowels in any condition.

In one case in which there was looseness of bowels with fever 100° to 100·5° F. in the morning, with an increase of one degree in the evening, with tenderness in the right iliac region and a typhoid odor to the stools, which were pale green, showing strong suspicion of typhoid fever, salol in ten-grain doses every two hours relieved the condition, and in a week the symptoms had disappeared. I believe in this case typhoid fever was aborted. I am the more willing to believe this after I have seen more of the prompt relief afforded by salol in the severe bowel trouble of genuine typhoid fever.

Intestinal inflammation of children in summer, if treated by salol to correct putrefactive changes in the bowels, and a proper diet, need no longer be feared unless it has been allowed to exist too long before treatment is begun.

Diarrhœa and dysentery of children in summer is more promptly relieved by salol than anything else. Let me here outline a general course of treatment for these cases. To begin with, stop all food for twenty-four hours. If the little patient is thirsty, use a decoction of salep cold. This is made as follows: A saltspoonful of powdered salep is rubbed into a paste in a cup with a tablespoonful of *cold* water and a pint of boiling water added slowly, stirring it all the while. This is set on the ice, and, when *cold*, it may be given to the child almost *ad libitum*, but in small quantities at a time. Give the salol in appropriate doses every two hours until there is marked improvement in the bowels, and apply something warm to the abdomen. In the majority of cases the little patient will be ready for food in twenty-four hours. This should then be given in small quantities at first, and it must be of the proper kind.

Milk is unreliable in hot weather because of its extreme proneness to develop the poison named by Professor Vaughan tyrotoxicon.

The same objection holds for artificial foods which require the addition of milk at that season of the year.

Most foods also contain starch, which is likewise seriously objectionable to an infant under one year old with weak bowels. I prefer, and am in the habit of using, a malted milk food made by Horlick, of Racine, Wis., which is the same as his original food, except that in the process of manufacture milk is used instead of water; and in preparing it for use, water only is used instead of milk, as in the original food. Thus the necessity for using suspicious milk in the preparation of the food for the infant is avoided.

It is best to continue the salol for a day or two after the bowel trouble has subsided.

An important addition to our therapeutic resources is the *ice-water* enema, and it is indicated and used with advantage in all conditions of loose bowels, but it is more especially indicated where there is rectal tenesmus with bloody or slimy stools and an increased temperature. There is nothing which will so promptly relieve the little sufferer as well as the anxiety of the mother. A case in point which will illustrate the truth of this assertion is the following:

A child, seven months old, was brought to me about midday with a temperature of 103°, constant tenesmus of the bowel, with stools every half-hour, consisting of watery discharges, with slime streaked with blood toward the last. The child had been sick for three days, and had been treated with bismuth, chalk, etc., with no benefit. It was peevish and fretful, and had slept scarcely any for two days and nights. An ice-water enema of half a pint was given at once, and the child was made to retain it; and half-grain doses of salol were ordered every two hours. The mother was directed to repeat the enema at six o'clock if it was necessary, and to report the next morning.

She stated that the child had slept until after six o'clock, the first real rest it had had for two days, and that it got only one powder before that time, and had no movements; that the next morning it was all right, and ready for food.

Another case was that of a child, three years old, who had been troubled with diarrhœa all day, and had received no treatment, when, at six o'clock, the mother, becoming alarmed by the frequency and offensive odor of the stools and the pain the child complained of, sought advice. To her horror, I gave an enema of ice-water, which instantly relieved the little sufferer, and established it with favor in the eyes of the mother; salol, in two-grain doses, was all that was needed afterward.

It is always best, for the moral effect upon the attendants, to add something to the enema, and let them believe at first it is that and not the water which produces the effect. They will then the more willingly submit to the use of the remedy; and at the same time I believe it is best, where there is an offensive odor to the stools, to use some antiseptic, such as hydronaphthol or salicylate of sodium, in small quantity. Carbolic acid would be objectionable on account of its poisonous effect in quantity large enough to be of use, and because its odor would betray its presence.

The manner of giving the enema is important, as it is desired to have it retained as long as possible, and this is sometimes difficult to accomplish in young children unless one understands it thoroughly. It is best for the physician himself to give the enema, at any rate, the first, and, unless he is willing to do this, he need not look for success.

An ordinary Davidson syringe may be used very slowly, but the fountain-syringe is preferable, raised only just high enough to have the water flow in slowly, and at intervals the stream should be checked for a while by pressure upon the tubing.

By proceeding in this way, and holding the buttocks together firmly with a towel over the hand, which at the same time holds the nozzle in the rectum, the child can be made to receive and retain a considerable quantity, if the recumbent position is insisted upon for a few moments after.

Let any one who doubts the value of these two remedies try them for himself, and I feel fully satisfied that he will be grateful for the hints he received from this slight contribution.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVES.

By FRANKLIN H. HOOPER, M. D., Boston,
FROM THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL.

(*Concluded from page 103.*)

We must here leave this subject of the action of sulphuric ether upon the laryngeal muscles of dogs with the regret that we have no explanation to offer why the glottis should dilate under its influence and contract without it. We are inclined to doubt if much light will be thrown upon the cause of the phenomenon by experimental studies on the nerve-trunks themselves such as we have instituted. The secret resides more likely in some histological or chemical difference between the opening and closing muscles of the glottis, and researches in this direction may, we trust, furnish the explanation.

In coming now to our experiments on the cat, we shall find that the normal action of its recurrent nerves is to produce an opening of the glottis instead of a closure, as in the dog. We are at a loss to account for this difference in these two animals of allied genera. Of the animals we have used for experimental purposes—namely, dogs, cats, pigs, and the horse—the cat is the only one in which dilatation of the glottis is the rule under what may be called normal conditions. We can not speak, therefore, of the "ether-effect" in the cat, since abduction takes place equally well under chloral, chloroform, morphine, or ether.

The cat may be arranged for observation in a manner similar to that we have employed for dogs. The larynx of the cat is of a much more delicate pattern than the dog's, and the vocal bands are longer and more flexible in proportion to the size of the animal.

In the living cat dilatation of the glottis is the rule, when its recurrent or pneumogastric nerves are stimulated, or their peripheral ends after section. The mixed movement, however, is sometimes observed, oftentimes at the end of an experiment, when at the beginning no contraction of either the internal or lateral muscles could be detected. But after the cat is dead the effects change. The abductions grow gradually more feeble, while the closure of the ligamentous portion of the glottis becomes more marked, until finally closure only is elicited. This difference between the action of the recurrent nerves on the glottis in the living and dead cat suggested that the condition of the blood might play a part in the phenomena, and we consequently tried the effect of asphyxiating the animal in order to see if we could bring about a closure by the deprivation of oxygen. For this purpose the cat was tracheotomized and allowed to breathe into a small rubber bag attached by a short piece of tubing to the tracheal cannula. As asphyxia was being produced the recurrents were stimulated from time to time, but dilatation was invariably called forth even when the cyanosis was extreme and after the respirations had ceased. In our experience with the living cat we have been able to produce a contraction of the vocal band by but one method, and that reflexly through the pneumogastric nerve. By dividing one of the pneumogastrics about the middle of the neck and stimulating the cut end nearest the brain (care being taken not to include the sympathetic), stoppage of the respiration will occur and the vocal band of the opposite side will come to a standstill in the position of expiration; on increasing the intensity of the irritation a decided contraction of the vocal band will take place, it coming in contact sometimes with its fellow. The results of our observations, which have been made on twelve cats, were quite constant, the differences being not in the character of the phenomena, but, as in all experiments on different larynges, in the extent or degree to which the effects are manifested. We subjoin the details of specimen experiments:

February 17, 1887.—Male cat. Etherized; secured on its back with mouth held open; glottis observed through the mouth; pneumogastric and recurrent nerves laid bare; irritation of the trunks of both nerves with stimuli of varying strengths produced dilatation of the glottis; same effect followed stimulation of the peripheral ends of pneumogastrics and recurrents after section.

Solution of chloral injected into external jugular vein; stimulation of peripheral cut ends of both recurrents with all intensities produced dilatation.

February 20, 1887.—Male cat. Chloroform first given, afterward chloral. Experiments of February 17th repeated with like results. Left vocal band became paralyzed from some unknown cause. In twenty minutes it began to regain its mobility, the left recurrent meanwhile having been washed with a half-per-cent. salt solution; medulla destroyed; stimulation of cut recurrents immediately afterward gave dilatation.

February 22, 1887.—Male cat. Tracheotomized; ether given through tracheal cannula; stimulation of uncut pneumogastrics and recurrents followed by dilatation; left pneumogastric cut; stimulation of its central end causes a contraction of the right vocal band. Toward the end of the experiments on this animal it was noticed that complete dilatation had given place to the "mixed" movement, there being well-marked contraction of the anterior portions of the vocal bands.

February 24, 1887.—Female cat. Chloroform, later chloral; stimulation of uncut pneumogastrics and recurrents as in previous experiments; mixed movement was observed to follow dilatation after the nerves had been irritated many times; left pneumogastric cut; irritation of its central end produced stoppage of the respiration, the vocal band on the opposite side (the right) coming to a standstill in the median line.

This cat died suddenly without apparent cause; immediately after death, stimulation of the recurrents produced the mixed movement as before; the abductions, however, soon grew very feeble, and in twenty minutes were no longer elicited by stimulating the nerves, while the contractions were still noticed, though less vigorous.

February 27, 1887.—Male cat. Killed at 10.45 A. M.; a few moments later dilatation was called forth by feeble stimuli applied to the pneumogastric and recurrent nerves; the recurrent nerves were now stimulated alternately. At 10.55 irritation of the left recurrent with weak currents produced the mixed movement, which was replaced by complete contraction on increasing the intensity of the stimulus. After this no sign of abduction could be detected, and by 11.15 the contractions had also ceased to be manifested even by the strongest irritations. Stimulation of the right recurrent at 11 produced abduction, which changed into the mixed movement on increasing the intensity of the stimulus. At 11.10 abduction had disappeared; feeble irritation caused slight contraction, which became very marked as the intensity was increased. At 11.20 only very powerful stimuli (100 to 150) produced feeble contraction as the nerve was practically exhausted. The closure after death is more marked in some cats than in others, but the difference from the dilatation during life, with one exception, has been very striking.

This one exception was observed in a cat that had been the subject of one of our asphyxia experiments, and, as the failure to contract occurred on one side only, it may be put down to some accidental cause.

April 15, 1887.—Asphyxia experiment. Female cat. Ether, afterward chloral; tracheotomized; small rubber bag attached by a piece of tubing to tracheal cannula; asphyxia begun at

10.40 A. M. Stimulation of left recurrent produced abduction of left vocal band.

10.42. Respirations fast and violent; tongue and mucous membrane of mouth becoming blue; abduction.

10.45. Respirations much slower; cyanosis extreme; abduction.

10.46. Respirations have almost ceased; abduction.

10.46½. Respirations have ceased; bag removed; glottis is tightly closed, which, when asphyxia was coming on, was widely open; stimulation of left recurrent, as before, caused dilatation of the left vocal band; in a moment or two the cat's normal respirations recommenced; a few minutes later this experiment was repeated.

10.52. Asphyxia begun; stimulation of left recurrent; abduction.

10.53. Respirations 84 to the minute; abduction.

10.54. Respirations much slower; cyanosis extreme; abduction.

10.55. Respirations have ceased; glottis closed; feeble irritation failed to produce abduction as in the previous experiment; on increasing the intensity a slight opening was observed; artificial respiration was used to resuscitate the animal without success, and the cat may be said to have died at 10.55. We then proceeded to obtain the closure after death, as in previous cats.

10.59. Glottis no longer shut; the vocal bands appear to be a little nearer the median line than the cadaveric position; stimulation of left recurrent gave contraction in anterior portion of vocal band and dilatation of the posterior part (mixed movement).

11.06. The same.

11.09. The same.

11.11. The contraction not so marked; dilatation as before.

11.13. Dilatation; no contraction noticed even on increasing the intensity of the stimulation.

11.16. Feeble dilatation.

11.18. Very feeble dilatation, practically gone.

11.20. Electrode changed to right recurrent; stimulation with feeble and strong stimuli produced contraction; no sign of abduction; the contractions grew gradually feebler, but were elicited for twenty minutes, when the nerve became completely exhausted.

April 17th.—Large male cat; chloralized; irritation of recurrents produced complete dilatation; tracheotomized and arranged for asphyxiation as in previous experiments.

11.05 A. M. Asphyxia begun; abduction.

11.07. Respirations rapid; cyanosis beginning; abduction.

11.09. Respirations about the same; cyanosis marked; abduction.

11.11. Respirations slow; glottis open; extreme cyanosis; abduction.

11.11½. Respiration has ceased; bag removed; glottis closed; abduction; artificial respiration restored the normal respiratory movements in a few moments; this experiment was repeated three times on this animal with like results.

EXPERIMENT IV.—Cat breathing naturally; stimulation of recurrents and vagi produce abduction; left vagus and left sympathetic cut; stimulation of central end of vagus stops the respiratory movements, the vocal band of the opposite side (the right) stopping in the expiratory position. On increasing the intensity of the irritation, the contraction of the right vocal band was very marked, the right arytenoid cartilage coming sharply against the left.*

EXPERIMENT XXI.—12.08. Medulla destroyed; stimulation applied alternately to recurrents gave abduction.

12.14. Mixed movement; decided contraction of the anterior portions of the vocal bands, which was not noticeable before death.

12.20. The same.

12.25. Contraction in front; abduction behind very feeble.

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* Stimulation of the central end of the sympathetic increased the respiratory and heart-movements, and produced a great fluttering of the right vocal band, which was apparently due to the respiratory efforts. The vocal band was forcibly abducted, but did not remain fixed; it kept "fluttering" in and out, but the outward movements were the more pronounced.

12.30. Contraction both sides marked; abduction of right practically gone; of left very feeble.

12.35. Abduction entirely gone; feeble contraction still called forth with strong stimuli.

We may summarize the experimental results of this paper as follows: 1. The recurrent laryngeal nerves are purely motor in their function. 2. Their action upon the glottis differs in different animals. 3. In the dog their normal action is to close, while in the cat they open, the glottis. 4. In the dog, sulphuric ether and huge doses of morphine reverse the normal action of the recurrent nerves; the glottis, under the influence of these drugs, dilates instead of closing on stimulation of the recurrents. 5. The "ether-effect" varies according to the susceptibility of the dog, to the amount of the drug consumed, and to the intensity of the irritation. 6. Under small doses of ether, stimulation produces in dogs two effects upon the glottis, (1) vibration; (2) closure. Under larger doses, according to the intensity of the irritation, four effects may be observed: (1) vibration; (2) complete dilatation; (3) mixed movement; (4) closure. 7. Under very large doses of ether, closure, in certain dogs, can not be obtained with any intensity. 8. Under small doses of chloral, chloroform, and morphine, stimulation of the recurrent nerves of dogs is followed by the same results as under small doses of ether, namely: (1) vibration; (2) closure. 9. The mixed movement is occasionally seen in dogs when narcotics other than ether are given in large doses. 10. In the cat death reverses the normal action of the recurrent nerves. In from five to twenty minutes after death, stimulation causes a contraction of the glottis, while in the living cat dilatation is produced.

A CASE OF TREPHINING FOR EPILEPSY.

By R. W. SHUFELDT, M.D., C.M.Z.S.,
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AUTHORITIES seem to differ widely upon the question of the propriety of performing the operation of trephining in certain cases of epilepsy where, in the absence of other reliable history, the disease seems to be fairly traceable to some old injury to the skull; and the opinions held by surgeons of the first rank are often diametrically opposed to each other in the premises. In 1871, Ashhurst, in his "Principles and Practice of Surgery," gave it as his opinion that—

> "With regard to trephining for epilepsy, I can only say that I consider the operation unadvisable. Its risks are not inconsiderable, sixteen out of seventy-two cases collected by Billings having proved fatal; and when we remember the well-known fact that epilepsy is apparently and temporarily curable by very various remedies, which have at least the merit of being harmless, we should pause before recommending an operation which may not improbably itself cause death, and of which the prospective benefits as regards permanence are certainly doubtful."

Further, this eminent author held that the operation itself was one of the most fatal and dangerous that ever fell to the lot of the surgeon to perform, and he says:

> "Perhaps we can most nearly approach a correct estimate of the risks of the operation itself by considering the statistics already referred to of trephining for epilepsy. In these cases the only traumatism, to borrow a Gallicism, is that due to the operation itself, and here we find that 72 cases gave 16 deaths, a mortality of about 22 per cent. But, even with this comparatively small figure, it behooves the surgeon to be very cautious not unnecessarily to employ an operation which of itself kills one out of every four or five patients, more especially as, upon consideration of the pathology and natural history of brain injuries, the probability of benefit from the operation is seen to be limited to an exceedingly small number of cases." (*Loc. cit.*, p. 321.)

So much for Dr. Ashhurst's opinion in 1871; and now, seven years after, an authority of equal prominence publishes, in his exhaustive work upon the "Principles and Practice of Surgery," that—

> "It is the apprehension of this disease [epilepsy] that induces some surgeons to apply the trephine in cases of depressed fractures, even when no urgent symptoms are present. The danger from this source I believe to be very much exaggerated."

These are the words of Dr. Agnew, and he further goes on to say in the same connection that—

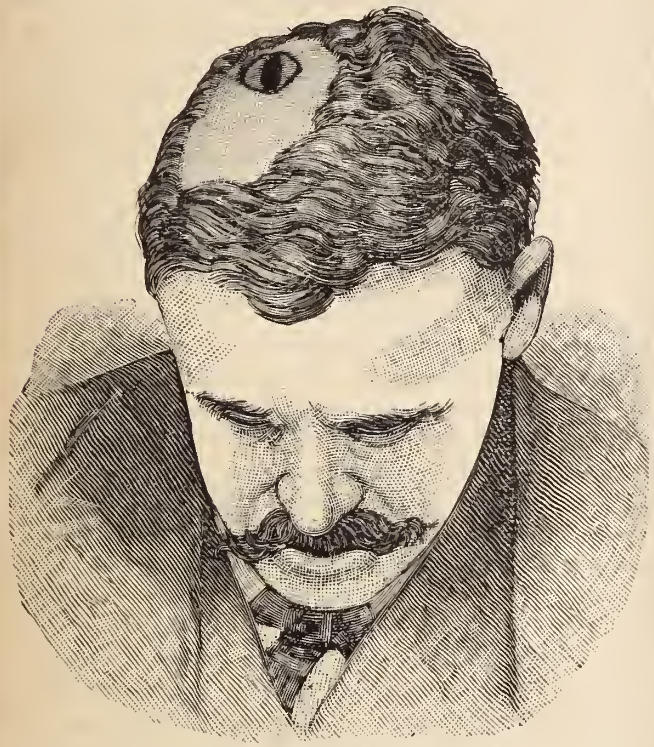
> "Professor Gross has operated four times, with one cure. I have trephined in three cases of the disease: one recovered, one was greatly relieved, and one died. The depression of bone in two of the cases was quite marked." And again: "In cases of traumatic epilepsy, where the traces of the injury originating the disease can be recognized upon the cranium, where there are frequently recurring convulsions, which are not in any way controlled by internal remedies, and where the mental powers are becoming greatly impaired, rendering the patient unable to transact the common business affairs of life or incapable of using the ordinary precautions for self-protection, the use of the trephine is entirely justifiable, and offers the unfortunate sufferer the only prospect of relief." (*Loc. cit.*, p. 305.)

Between these two expressions of opinion the literature of surgery, as we well know, offers us a great many recorded cases of this operation, with every shade of stated conviction as to its justifiableness on the part of the operator. No doubt this has been its status in all ages since the earliest time, for the history of trephining is, as we now know from the archæologists, one of the oldest in the annals of surgery.

Fully believing that every reliable case of such an operation should be carefully recorded, both as an assistance to the surgeon and perhaps to the ultimate benefit of humanity, I determined to publish here an account of a case wherein I recently employed the trephine, with the hope of relieving a pronounced epileptic of the attacks from which he was a sufferer.

My present residence is at Fort Wingate, New Mexico, and rather more than two weeks ago Dr. Z. B. Sawyer, of Gallup, New Mexico, brought me a man suffering with epilepsy, upon whom he desired to have me operate in the hospital at the station, as there were no conveniences for such a serious undertaking at Gallup.

This patient, a white man of some forty years of age, appeared to be a person of excellent physique and general good health. Upon questioning him, I ascertained that both of his parents were dead, but that neither of them, so far as he knew, had ever had epilepsy. When he was a child, living in Virginia, and between eight and nine years of age, a negro struck him upon the head with an axe, with the intention of killing him. A fearful wound was the result, but the country physician who attended the case simply washed this, and closed the gap with ordinary sticking plaster. For a long time they despaired of the boy's life, but he eventually recovered, and from the dates it will be seen that this happened some thirty or more years ago.



Showing site of wound and appearance of parts eleven days after the operation. (From a photograph by the author.)

In 1872 this man contracted constitutional syphilis, from which he suffered more or less up to 1884, at which time he resorted to the Hot Springs of Arkansas. Here he professes to have been so much relieved as to have considered himself cured, and he states that for the last three years he has enjoyed the best of health possible. Notwithstanding this, his physician continually kept him under anti-syphilitic treatment, using principally the iodide of potassium for the purpose, with the occasional exhibition of mercury. So far as I could ascertain by a personal examination, there were no evidences of the disease upon him when he was brought to me for an operation for epilepsy. I did notice, however, a certain hesitation in his speech, but he stated that that had been the case for many years, and, so far as he knew, ever since childhood. He had a very uneasy expression of countenance, and I further observed that his pupils were much dilated, the *left* markedly more than the right one. He said his memory sometimes completely failed him now, and that he often lost track of things that had happened only two or three days previous. About two months before he had suffered from a profound attack of epilepsy, which had come on without any special excitation, and he had remained unconscious for two hours after the attack. He was much worse after this, both mentally and physically, and had considerable pain in the region of the old wound on his head. In about three weeks following he had had another attack of epilepsy, which his friends assert was of a very violent nature, and that he rubbed the top of his head and pulled his hair during the fit. It was about a month after this, the latter of the only two attacks he had ever had, that they brought him to me. Examining his head, I found an old depressed scar in the left parietal region, nearly on top (see figure). It was longitudinal in direction, about a centimetre and a half from the median line (sagittal suture), nearly or quite eight millimetres deep, and three and a half centimetres long. Near the center he complained of some pain on pressure, but otherwise the wound had all the appearance of a very old and thoroughly healed scar.

On May 6th I operated upon him in the ward of the hospital at this place. A sufficiently large area of hair having been carefully shaved from about the site of the scar, he was placed upon the operating-table, and came promptly under the influence of the anæsthetic (chloroform, one part; ether, two parts). There was no excitement and no vomiting on his part, and he was ready for the operation in a little more than fifteen minutes. With a sharp scalpel I drew the outline of a horse-shoe flap upon his head, cutting clean to the skull at the first sweep, all the way round, and including the scar near its center. This flap opened in the direction of the ear, and was lifted by simple traction from a hooked-in tenaculum, and the gentle aid of the handle of the scalpel to clear the loose adhering tissue. Considerable hæmorrhage, from four small arteries, instantly followed this incision, but it was controlled at once by the application of the ordinary little wire serres-fines used for the purpose. Next, the parts being thoroughly cleansed of blood by sponging with a solution of bichloride of mercury (1 to 1,000 parts), I was enabled to examine the appearance of the scar upon the skull. This I found firmly united, composed of dense bone, but in length and in depth not so extensive as the cicatrix of the integuments which I had just thrown back. At the same time the depression was a considerable one, and my examination of it by no means altered my opinion as to the necessity of the operation. So, with a very large-sized conical trephine, with the smallest-sized teeth to the saw-edge, I removed a button of bone from the skull, which button included the deepest and most central portion of the osseous cicatrix. The button was taken out with an elevator, and, in breaking off, left a little ledge projecting on the outer periphery of the circlet below, while the trephine had slightly scratched the dura mater on the median aspect of the exposed circle. The bone was extremely dense, and there was no appreciable hæmorrhage as the trephine passed through the diploïc tissue of the cranium. Examination of the internal table of the button removed showed certain minute roughnesses along the line of the scar, as if two or three needle-like spicula might have been broken off, but all signs of any old stellate fracture had been absorbed, and, if anything, the wall of the cranium was not so thick at the scar as it was in the immediate surroundings. The bone was healthy on both sides, and so was the dura mater. Upon injecting a small stream of water (the antiseptic solution) to wash the blood from the exposed surface of the brain-membrane, two small bleeding points, one above and one below the center of the circle, at once became evident. These were directly in the line of the scar, which latter was plainly visible on the dura mater also; and, as there was no possible way in which such openings could have been made during the operation, it was fair to presume that they were produced by the spicula that must have projected from the nether side of the button of bone which I had removed. It remains to be proved whether such spicula were actually present, and whether they were the cause of the epileptic attacks in this man's case. Having checked all hæmorrhage and thoroughly cleansed the parts, I neatly closed the wound with six fine silver-wire sutures, making close approximation all round, but leaving a small corner open at the postero-external end of the incision for such discharges as might take place. A light absorbent-cotton dressing was applied saturated with the antiseptic solution, and the whole kept in place with a light bandage. The patient was then removed to his bed; the time of operation, including the administration of the anæsthetic, was ninety minutes. Rallying from the effects of the operation at once, this man had not an untoward symptom in the entire course of the case. By the end of the third day the wound of the integuments had completely healed, with only a slight discharge of blood on the second day from the opening I had left for it. On the fourth day after the operation he was up and about, taking his regular meals and sleeping all night. To-day is the eleventh day since he was operated on, and I took his photograph in a hot sun in the open air; his face now wears a happy expression, with all anxiety gone from it; the pupils of his eyes are now normal, the dilatation present before the operation having disappeared; in short, he says he feels better in every way than he has for five years past.

Whether he has any return of his epileptic fits remains, of course, to be seen, but that there has been a general improvement in his case there can not be the shadow of a doubt. If his epilepsy is cured by the operation, it may point to one thing in such cases, and that is that possibly it may be wiser to operate *early* upon such subjects, and not wait until their chances of recovery are very much diminished by long-standing epileptic disease, and when their mental and physical condition is reduced almost to the lowest ebb, and an operation is resorted to as a sort of final hope, with scarcely any margin left for amelioration, to say nothing of a complete success.

I was assisted in this operation by Dr. Z. B. Sawyer, of Gallup, New Mexico, and there were present Acting Assistant Surgeon L. N. Clark, of the army, Lieutenant-Colonel J. C. Bates, of the 13th U. S. Infantry, and several officers of the same regiment.

Note.—After the lapse of more than two months since the operation, I learn that there has been no recurrence of the fits, and the man states that his health and faculties are in far better condition than for a number of years before.

EPILEPSY:

ITS CLINICAL MANIFESTATIONS, PATHOLOGY, AND TREATMENT.

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(*Continued from vol. xlv, page 689.*)

Under the designation of "Thalamic Epilepsy" Hammond[*] has published an interesting case, the chief characteristics of which are "conscious hallucinations, followed by unconsciousness, but unattended by muscular spasm."

With regard to the frequency of the attack, the greatest variations are encountered. Thus, in some cases a year may elapse without the appearance of a single paroxysm, while in other cases the seizures may occur thrice or even half a dozen times daily. Sometimes, again, they exhibit a well-marked periodicity, whereas in not a few cases no kind of regularity whatever is discernible. In yet another class of cases the subject has hardly time to emerge from one convulsive attack when he is seized by another, the paroxysms following each other in such rapid succession that there is finally no apparent restoration of consciousness between the seizures. This condition is known as the *status epilepticus*—a phase of the disease which has received considerable attention from French writers, notably from Bourneville.[*] This writer's subdivisions of the condition seem to me, however, unnecessary. The main points to bear in mind are that this form of the attack is, generally speaking, of graver import than the ordinary seizures, that hemiplegia develops in a considerable number of cases, that bed-sores may be developed over the sacrum, and that finally a condition of maniacal excitement with hallucinations, or depression and coma, may succeed the convulsions.

I have seen cases in which from twenty to fifty seizures occurred in the course of twenty-four hours.

The arrest of these convulsions is immediately attained by the application of pressure to the carotids, which is best accomplished with an appropriate instrument.[†]

So-called "Jacksonian" Epilepsy.—There are certain forms of local or unilateral spasm, occurring usually without loss of consciousness, which have been carefully investigated by Dr. Hughlings Jackson, and which, in accordance with the views entertained by that observer with respect to their pathology, have found a place in medical literature under the designation of "Jacksonian epilepsy." Since the spasms in question are almost invariably due to organic intra-cranial disease, their extended consideration would be out of place in a work of this character. But, since most recent systematic writers are in the habit of devoting some attention to them in connection with the discussion of the pathology of epilepsy, I have decided to give a brief sketch of their principal characteristics, reserving their more extended discussion to a future occasion. While so doing, I can not, however, refrain from protesting against the inconsistency of a pathology which would designate phenomena of this class as epileptic. There is, indeed, no more pathological similitude between these local spasms and true idiopathic epilepsy than exists between the latter and the contractions evoked by the electric current when applied to the motor centers in the cortex.

It is true that Jackson was anticipated by Bravais[‡] as far as the description of these unilateral convulsions is concerned, but it was reserved for the former clinician to thoroughly elucidate the morbid physiology of the affection. The researches of Dr. Jackson in this important field are recorded in a series of papers, which have received a wide and merited attention.

"Jacksonian epilepsy" is characterized by the occurrence of partial convulsions, which may be limited to one extremity or to one side of the face, or which, beginning in one extremity, may extend to the other, or even involve half of the body. In rare instances the spasm may extend to the opposite side as well.

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[*] "On Thalamic Epilepsy," "Archives of Scientific Medicine," August, 1880.

[*] "Études cliniques et thermométriques sur les maladies du système nerveux," 1873.

[†] "Prolonged Instrumental Compression of the Carotids as a Therapeutic Agent," by J. Leonard Corning, M. D., "Medical Record" of February 18, 1882. Also "Philadelphia Medical News" of June 17, 1882. "Brain Rest," by J. Leonard Corning, M. D., G. P. Putnam's Sons, New York, 1883. "Carotid Compression," Anson D. F. Randolph & Co., New York, 1882. "Brain Exhaustion," by J. Leonard Corning, M. D., D. Appleton & Co., New York, 1884.

[‡] "Recherches sur les symptomes et le traitement de l'épilepsie hémiplégique," Thèse, Paris, 1827.

As we have already seen, consciousness usually remains unaffected, or, where unconsciousness takes place, it is only evident toward the end of the attack, so that the patient is afterward able to recall what has taken place before and during the greater portion of the seizure.

This form of epilepsy owes its origin to coarse disease situated in or near the cortex. The most frequent cause of the disease is a syphilitic gumma, but localized cicatrices, wounds, tubercle, meningo-encephalitis, and indeed all forms of circumscribed irritative lesions of the cortex, may give rise to the spasms.

When we consider the grave nature of such lesions it is not surprising that the limbs affected by the convulsions may subsequently become the seat of temporary or even permanent paralysis. The latter eventually is prone to occur where the lesion, which at first may have been merely irritative in character, ultimately destroys that portion of the cortex in which it is situated, or against which it impinges. This association of the unilateral convulsions with secondary paralysis has given rise to the designation often encountered in medical literature of hemiplegic epilepsy ("épilepsie hémiplégique"). But why should there be convulsions associated with these profound cortical lesions? Dr. Hughlings Jackson's explanation of this interesting pathological fact is at once ingenious and plausible. He believes that the ganglia in the immediate vicinity of the lesion are kept in a state of morbid irritability, and that consequently they are unduly supplied with blood. As a result of this hyper-irrigation, the ganglion cells absorb an excessive amount of nutriment, so that their superfluous energy finds a vent in sudden explosions, the products of which are the convulsions. These explosions are followed by exhaustion and inertia of the nerve-centers involved, and consequent temporary paralysis of the previously convulsed muscles ensues. As we have already had occasion to observe, however, irritative lesions of this character may eventually destroy the motor centers in the cortex near which they chance to be situated, and with the result of causing permanent paralysis of the muscles over which the centers in question preside.

Sensory Epilepsy.—This variety of the affection has been referred to by Sommers and others, and in a recent and able article Dr. Allan McLane Hamilton * has recorded several cases illustrative of the manifold phases of this form of epilepsy. In the first case there were sudden hemiopia, supra-orbital neuralgia, unilateral anæsthesia of extremities, tongue, and gums, temporary speech disturbance, and loss of consciousness. In another case there were hemianopsia, frontal headache, hemianæsthesia, temporary mutism, and loss of consciousness.

The researches of Krause, D. J. Hamilton, Starr, Munk, and Wernicke have done much to shed light upon the morbid physiology of these exceptional forms of epilepsy; but, as the discussion is still by no means closed, I shall refrain from entering further into the consideration of this interesting but obscure manifestation.

Causation.—The most potent *predisposing* cause of epilepsy is probably found in a hereditary neuropathic tendency transmitted from the father, mother, or both. Sometimes, however, this hereditary tendency is not readily discoverable, owing to the fact that one or even several generations have escaped. This circumstance accounts, doubtless, in a measure for the conflicting statistics adduced in favor of or against the theory of hereditary influence. When carefully collected and impartially interpreted, there can be little doubt, however, that statistics go far to prove the great ætiological importance of heredity in this as in other neuroses. It should be borne in mind, in this connection, that it is not absolutely necessary to trace a series of epilepsies occurring in successive generations in order to prove a hereditary influence. On the contrary, all that is required is proof of the existence in the family of a well-marked neuropathic diathesis, experience having shown that such a morbid tendency may exhibit itself in almost any form of organic or functional nervous disease. Regarding the subject from this standpoint, Herpin * found, out of two hundred and forty-three epileptics, well-marked hereditary tendencies in forty-three cases.

The cases reported by Petit † of healthy children occurring in families in which both parents were epileptic have been cited as testimony calculated to destroy the integrity of the theory of hereditary influence. They possess, however, no value whatever so far as the rebuttal of the evidence upon which that theory is founded is concerned, since at most such facts only go to show that one or more generations may escape from the baneful pre-natal influences—a fact already sufficiently well understood by all medical statisticians.

Echeverria's opinion that phthisis in the parents has a tendency to cause epilepsy in the offspring seems to us well founded, though controverted by Nothnagel, ‡ who regards the association of the two diseases as explained by the great frequency of phthisis. The fact that a certain condition of instability of the central nervous system is engendered by the malnutrition consequent upon scrofula, anæmia, and chlorosis, and that such an unstable condition often eventuates in epilepsy, is indirect evidence of the correctness of Echeverria's position. Consanguineous marriages also appear to predispose to the occurrence of the disease in the offspring.

Alcohol has been considered an important ætiological factor, but evidence on this point is conflicting. There is no doubt, it is true, that chronic alcoholism and epilepsy are frequently associated; but whether the former is the outgrowth of the latter, or whether the epilepsy is to be regarded as the result of the alcoholic excesses, is difficult of determination.

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* "A Contribution to the Study of Several Unusual Forms of Sensory Epilepsy which are probably dependent upon Lesions of the Occipital Cortex," by Allan McLane Hamilton, M. D., "Medical Record," April 4, 1885.

* "Du pronostic et du traitement curatif de l'épilepsie," Paris, 1852.

† "Gaz. méd. de Paris," 18, 1860.

‡ *Op. cit.*, p. 202.

Age is unquestionably an important predisposing factor in epilepsy. In one hundred and thirty-eight cases analyzed by myself, I found that in 25 per cent. the disease began under eight years, in 51 per cent. between eight and twenty-five, in 13·5 per cent. between twenty-five and thirty-five, and in 10·5 per cent. between thirty-five and fifty.

Gowers's * statistics differ somewhat from my own; but since they were derived from the analysis of a larger number of cases, they are perhaps more exact. Of 1,450 cases analyzed by this observer, 12·5 per cent. began during the first three years of life, 29 per cent. under the tenth year, 46 per cent. between ten and twenty, and 15·7 per cent. between twenty and thirty.

Hammond † has tabulated 298 cases with respect to the age at commencement, as follows:

Age at commencement.	Males.	Females.	Total.
Under 10 years	31	29	60
Between 10 and 20 years	178	151	329
Between 20 and 45 years	72	71	143
Over 45 years	17	23	40
Total	298	274	572

Sex has a less obvious influence upon the occurrence of the disease than was formerly supposed. The older writers believed that the disease was more common among males than females, but their views do not seem to have been derived from a careful analysis of statistics, and are apparently nothing more than arbitrary assertions. As to recent writers, the opinion is quite generally expressed that the disease is more frequent among males than among females, while one or two observers believe that the proportion between the two sexes is about equal. For my own part, I have no hesitancy in expressing the belief that the disease is at least as common among males as among females. Of 72 cases of epilepsy which I have recently seen in asylum, dispensary, and infirmary practice, 41 occurred in men and 31 in women.

It is possible that the relative frequency of the disease in the sexes may vary somewhat with age; but, be that as it may, there is no doubt that in ordinary hospital practice the disease is somewhat more frequently encountered among males than among females.

The factors which may be classed as *exciting* causes of the disease are undoubtedly numerous. We shall, however, discuss only the more frequent and important of the latter, since to attempt to enumerate them all would be alike devoid of theoretic or practical advantage.

In former times much importance was ascribed to sexual excesses in the production of the disease; but in more recent times a reaction has taken place, so that at the present day it is quite in accord with fashion to undervalue, and even to deny altogether, the ætiological importance of this factor.

From my own observations in connection with this aspect of the subject, I can not help believing that modern writers have been too hasty in their conclusions on this point.

It is an undoubted fact that the great majority of epileptics are addicted to the practice of masturbation, and that the habit is quite as prevalent among female as among male patients. Many recent writers, nevertheless, regard the vice as one of the manifestations of the disease, and not as one of its causes. The question is, however, a difficult one to decide, and arbitrary assertions for or against the proposition are evidently inadmissible. But, after all, the most important question to decide is not whether epileptics masturbate during the disease, on account of the latter, but rather whether they were addicted to the vice previous to the advent of the epileptic symptoms.

Out of seventy-two cases of epilepsy which I investigated with regard to this point, 84 per cent. afforded histories of excessive masturbation previous to the first paroxysm. In one case localized spasms began in the left hand, after the practice had been continued for about three years, and in course of time the convulsions became general. There were no paralytic symptoms, and the patient, a young man of twenty-eight, denied having had syphilis. In the face of such evidence, I can not help believing that we are justified in inferring that a causal connection really does exist in some cases between persistent masturbation and the development of that instability of the central nervous system which is so characteristic of the epileptic state. Those cases in which the first epileptic paroxysm was developed during coitus certainly lend strength to the argument. The conclusion is indeed inevitable that sexual excesses constitute a far more frequent predisposing and exciting cause of the affection than is admitted by Nothnagel * and other excellent modern writers.

Epilepsy is frequently evoked by such psychical disturbances as sudden fear, grief, pecuniary and other forms of anxiety, and indeed by all violent appeals to the emotional centers. Such occurrences unquestionably constitute some of the most prolific exciting causes of the disease; but it is extremely problematical whether the epileptic symptoms would have been evoked were the central nervous system not already in a state of morbid receptivity.

Epilepsy is also prone to occur in the course of or subsequent to the occurrence of the febrile disturbances of infancy. It is also frequently developed after injury to a nerve, or as the result of the reflex irritation induced by teething and other causes.

Sometimes the disease is traceable to some cranial injury of such apparent insignificance that it has been speedily forgotten, and only the most careful inquiry serves to elicit the fact. This applies with particular force to young children afflicted with local or general spasms—cases in which we are compelled to rely upon the equivocal testimony of nurses and other ignorant persons. Some of the most severe cases of localized epilepsy (hemi-epilepsy) which have come under my observation occurred in young children who had been dropped by nurses, or had met with some other form of accident at the hands of servants. In all such cases there is probably always more or less indirect injury to the brain, with consequent development of grave organic lesions, though, it is true, there may be no external indication of injury.

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* *Vide* "British Medical Journal," March 6, 1880, as well as subsequent communications.

† *Op. cit.*, 701.

* *Op. cit.*, p. 203.

Blows upon the cranium are not liable to eventuate in epilepsy, according to some writers, unless they are of sufficient severity to cause unconsciousness. This appears to me an altogether too sanguine view of the matter, since I have seen at least two cases of epilepsy in children which developed soon after blows of so slight a nature as to be almost forgotten. There is little doubt in my own mind that the most insignificant concussion about the head, even when unaccompanied by evidences of abrasion, may, sooner or later, develop epileptic symptoms. This observation applies with particular force to infancy and early childhood, when the non-resistant character of the cranial bones facilitates the transmission of sudden shocks to the brain.

Even where no history of a blow is forthcoming, there is strong presumptive evidence that there has been contusion of some kind. Many cases of epilepsy, occurring after slight abrasions about the head, have been ascribed to "reflex" causes; but it is probable that, in a considerable percentage of such cases, there is more or less direct disturbance of the cerebral substance itself, although some time may have elapsed before the appearance of the first paroxysms. In all such cases great care should be exercised in forming an opinion as to causation, since the prognosis will manifestly be much less favorable where the paroxysms are traceable to direct injury than where they are really of reflex origin.

Experimental Researches.—The most important experimental investigations relative to the pathogeny of epilepsy are those of Marshall Hall, Sir Astley Cooper, Kussmaul and Tenner, Landois, Nothnagel, Brown-Séquard, Westphal, Magnan, Hitzig, and Ferrier.

Before discussing the various theories of the disease, which are directly or indirectly the outgrowth of these investigations, it will be advisable to review the experiments themselves, in order the better to appreciate how much objective matter is really embodied in these various hypotheses.

Even among the ancients there is an evident tendency to appropriate the results of the rough experiments at hand to the elucidation of the theory of disease. Thus, Hippocrates * taught that convulsions might arise as well from fullness as from want of blood. He was, doubtless, guided in these statements by observations made upon animals condemned to die in the shambles, coupled, perhaps, with considerations derived from practical experience at the bedside. Kellie,† who made a series of experiments upon sheep, and Piorry,‡ who conducted similar investigations upon dogs, found that copious bloodletting was followed by convulsions. Marshall Hall # and Travers were, however, among the first, if not the first, to note the resemblance between the convulsions produced by rapid bleeding in man and other warm-blooded animals and the spasms of epilepsy.

Although, as already noted, the ancients and older medical writers had formed opinions relative to the *rôle* played by the intra-cranial blood-stream—theories which, even at the present day, bear evidence of a high degree of perspicuity—it is commonly conceded that the fundamental experiments undertaken by Sir Astley Cooper * in 1831 really paved the way for the scientific study of epilepsy. These experiments consisted in ligation of the vertebral and carotid arteries; of both carotid arteries; and of both vertebral arteries. Then, ligation of the carotids first and of the vertebrals nine days afterward; of the carotids and subsequent compression of the vertebrals; and, finally, ligation of the vertebrals and subsequent compression of the carotids.

Of these experiments, that in which the carotids were first ligated, and the vertebral arteries immediately afterward compressed, is perhaps the most important; and I can not therefore do better than quote the same, in the words of Sir Astley Cooper himself:

"As tying the vertebral arteries is a difficult experiment, it occurred to me that I might compress them with my fingers, after tying the carotids, and produce the same effects.

"I tied the carotid arteries; respiration was somewhat quickened, and the heart's action increased, but no other effect was produced. In five minutes the vertebral arteries were compressed by the thumbs, the trachea being completely excluded. Respiration almost directly stopped, *convulsive struggles succeeded, the animal lost consciousness*, and appeared dead. The pressure was removed, and it recovered, with a convulsive inspiration. It lay upon its side, making violent convulsive efforts, breathing laboriously, and its heart beat rapidly.

"In two hours it had recovered, but its respiration was laborious.

"The vertebrals were compressed a second time. Respiration stopped; then succeeded convulsive struggles, loss of motion, and apparent death.

"When let loose, its natural functions returned with a loud inspiration, and with breathing excessively labored.

"In four hours it was moving about and ate some greens.

"In five hours the vertebral arteries were compressed a third time, and with the same effect.

"In seven hours it was cleaning its face with its paws.

"In nine hours the vertebral arteries were compressed for the fourth time, and with the same effect upon its respiration.

"After thirteen hours it was lively.

"In twenty-four hours the vertebral arteries were compressed for a fifth time, and the result was the same—namely, suspended respiration, convulsions, loss of motion and consciousness. On the removal of pressure, violent and laborious respiration ensued, and afterward the breathing became very quick.

"After forty-eight hours, for the sixth time, the compression was applied, with the same effect."

These experiments of Sir Astley Cooper have shown, then, *that ligature of both carotids and simultaneous com-*

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* "Aphorisms," sec. vi, 48.

† *Vide* "On Bloodletting," by Marshall Hall.

‡ "Archives générales de médecine," January, 1826.

# *Op. cit.*

* "Some Experiments and Observations on tying the Carotid and Vertebral Arteries," by Sir Astley Cooper. "Guy's Hospital Reports," 1836, vol. i, p. 458 *et seq.* The experiment, cited at length, is continued on pages 465 and 466.

pression of the vertebrals give rise to unconsciousness, suspension of respiration, and convulsions.

Subsequently Kussmaul and Tenner[*] repeated these experiments in a much more perfect manner upon dogs, cats, and rabbits, and succeeded in conclusively demonstrating that rapid and profuse hæmorrhage is followed by violent and general convulsions. "If," however, "hæmorrhage takes place slowly, and the vital powers are gradually consumed, death appears then to ensue with swooning, drowsiness, delirium, and vascular irritation without convulsions."

"More than twenty rabbits, which we either killed intentionally by rapid bleeding, or which expired while being experimented upon, died under general convulsions like those observed in epilepsy, and which we shall afterward more fully describe. Not one of those which we saw die from bleeding was exempt from convulsions. These convulsions did not differ in any respect from those we observed in several dogs and cats that died from bleeding, or from those described as occurring in men dying from hæmorrhage."[†]

Kussmaul and Tenner have also shown that an interruption in the conveyance of arterial blood to the brain of a rabbit produces epileptic fits with as much certainty as general hæmorrhage. Referring to this point, they state that "no difference, moreover, could be discerned between the fits observed in death from bleeding and those which occurred in about one hundred rabbits whose carotid and subclavian arteries were tied or compressed below the origin of the vertebral arteries."

And again: "Lastly, we became convinced, by observation of more than a dozen rabbits, that the fits produced by compression of the above-mentioned arteries resemble in every way those brought on accidentally or intentionally in the *identical*[‡] animals by profuse hæmorrhage after circulation had been restored to the head."

(*To be concluded.*)

Correspondence.

LETTER FROM PARIS.

Fournier on the Limitation of the Prevalence of Syphilis.—Can a Doctor raise his Fees without giving Notice?—The English Report on the Pasteur Treatment of Rabies.—An American Lady Graduate.

Paris, *July 8, 1887.*

Professor Fournier has occupied two meetings of the *Académie de médecine* with the reading of his remarkable report on the Prophylaxis of Syphilis—a document of great literary merit, and containing many recommendations on the long-disputed subject of the regulation of prostitution that are quite local in their character. One point that he urgently insists upon is, that all the city hospitals shall be thrown open to medical students. This refers to the custom here of treating the public women in a sort of prison hospital, called the St.-Lazare, where only the physician in attendance sees the great number of patients that would be of immense service for the clinical instruction of the thousands of students. It is true that the large hospitals, such as the St.-Louis, have plenty of venereal cases, but they are far from the centers of study, and M. Fournier complains that many of the students are graduated without a proper knowledge of the modern pest—syphilis. This consideration, together with the fact of the present depopulation of France, the frightful mortality among "heredo-syphilitics," and the inefficient police measures, was the reason why the Academy appointed the commission, consisting of Ricord, Fournier, Le Fort, Bergeron, Léon Colin, and Leroy de Méricourt, to draw up some scheme of reform. In the report, M. Fournier remarked that the subjects of syphilis were not like those of other infectious diseases, in that they were killed or cured quickly; they survived to become permanent disseminators of the contagion. Recent statistics had shown that seventy-one per cent. of infants infected with syphilis *ante partum* died of the disease, and in hospital practice the rate rose to eighty-six per cent. But this was not all; it was well known that many of the symptoms of so-called "scrofula" were only manifestations of hereditary syphilis. As to the social consequences, there was the incapacity to work, with all its attending misery, and an immense increase in the hospital charges; four special hospitals for this one disease were not enough for Paris, as the sufferers were overflowing into all the regular wards. Armies were contaminated, marriage had its dangers to the innocent, and, in fact, the degeneration of the human race was rapidly approaching. Michel Levy had called syphilis "the leprosy of our times." Now, governments bestirred themselves to isolate lepers, and spent immense sums of money to stamp out cholera and small-pox; but syphilis, which made more victims than all three of those diseases put together, stalked abroad openly. To prevent this was difficult for many reasons, one of which was that it was falsely represented as not seeking innocent victims. The world said that it attacked nobody, but had to be sought for—how, we all knew. Why make police regulations, it was asked, interfering with individual liberty for the sake of protecting people who can protect themselves by simply staying away from the sources of infection? In the eyes of the laity, syphilis was a well-merited disease, the result of a long course of debauchery. As a matter of fact, all these notions were utterly false and unjust. How often did it happen that a lad contracted this terrible disease by his first and only fault? If infection was deserved in some cases, there were hosts of others in which it did not follow an illicit act. Was it deserved, for example, by the good wives who contracted it from their husbands, by honest wet-nurses who got it from babies given them to suckle, by the husbands and children to whom these nurses transmitted it, or by the innocent babies who took it from their nurses? Was it deserved when it was contracted in vaccination? Was it deserved by the physicians, medical students, and midwives who contracted it in the exercise of their professional duties? Certainly, in thousands of cases it was undeserved, and to refuse, on such shallow pretexts as had been adduced, to strive for its extermination was against all common sense; we had a right to protect ourselves, and it was for the interest of the general public to protect honest women and children.

The commission proposes to suppress public solicitation by women, by severer measures than those now employed; to attack the disease by treating it properly; and to insist on a full knowledge of its symptoms and dangers being made known to all medical students. It proposes to send public women, not to a prison, but to a hospital. They are not to be punished for public solicitation until they have been tried in open court and allowed the benefit of a defense; if found guilty, they will be registered as belonging to the "profession." It is known that the greatest danger is in the immense class of women in the streets who are not "regulars," nor under any medical surveillance, and it is felt that it will be impossible to prevent public solicitation entirely, but it is pretty certain that, if vigorous repressive measures are taken against these irregular women, and they are forced on to the official list, many of them will leave the field to those who are under strict medical inspection. In regard to the teaching reform, all the prison hospitals are to be thrown open to medical students, and the students are to be compelled to attend one of them for three months before graduation is allowed. The army surgeons are to instruct the men as to the dangers of infection and the necessity of proper treatment, and the men are to be allowed a private interview with the regimental surgeon. The final recommendation is in regard to wet nurses. The physician who engages one for a family must give her a certificate that the family is not affected with any disease that can be transmitted to her. M. Fournier does not expect to effect a great revolution by these means, as he knows too well the difficulties involved; but, still, if only a diminution of the terrible disease is accomplished, a step forward in a good work will have been taken.

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[*] Moleschott's "Untersuchungen," Band ii, p. 248, 1857. Also "Epileptiform Convulsions caused by Profuse Bleeding," etc., by Adolf Kussmaul and Adolf Tenner. The New Sydenham Society, London, 1859.

[†] *Op. cit.*, p. 2, foot-note.

[‡] The Italics are ours.

Can a physician raise his fees without giving notice to his patients? In one of the law courts here this question has been answered in the negative. A physician had attended a lady in confinement some five years ago, and charged $20 as his fee. Afterward he was called upon to attend the same lady in confinement, and this time he charged $40. The patient refused to pay, and suit was brought to recover. The doctor maintained that his standing and skill had much improved, and that he was warranted in charging more for his time. The defendant replied that she had expected to pay what she had paid before. The decision of the court was that there was always a sort of implied agreement between doctors and patients, on the basis of previous charges, and that this convention fixed the subsequent rates; consequently, as the doctor could not allege any special difficulties or unusual loss of time in the case, and had not given his patients notice of his intention to raise his fees, he must lose the case and pay costs, the court awarding him only his former fee.

The sensitive scientific persons of France are just now in great glee over the report of the English commission that was appointed to examine into the Pasteur system of treating hydrophobia. The Pastorians are all delighted, M. Pasteur himself having said that he felt a profound satisfaction in this expression of confidence by such men as Sir James Paget, Sir Joseph Lister, Dr. Quain, and the others. M. Peter has nevertheless continued his criticisms, and his long clinical experience makes him a troublesome man to be put down by a chemist, so that there may yet be some warm discussion between them.

The medical season is closing here, and many students are passing their thesis examination. Among the more remarkable theses presented recently is one on "Iodism," of some two hundred pages, which was officially marked as "extremely satisfactory," that being the highest mark given. It gives me satisfaction to say that the author of the thesis is an American lady, Miss Elizabeth C. Bradley, a daughter of Judge Bradley, of New York. I am informed that Miss Bradley is going into practice in New York.

LETTER FROM VIENNA.

Kolischer's Treatment of White Swelling.

VIENNA, *July 7, 1887.*

At a recent meeting of the Imperial-Royal Society of Physicians, at which Dr. Kolischer reported the results of his method of treating localized tubercular deposits, and showed patients who had been subjected to it at Professor Albert's clinic, the technical details of the procedure were explained by Dr. Kolischer and Dr. Freund, the latter having worked up the chemical part. In cases of "fungi" which had not yet broken down, a corrosive-sublimate dressing was first kept applied to the part for twenty-four hours, and the surface was then disinfected with a one-per-cent. solution of sublimate. The injections were made with a Pravaz syringe of hard rubber furnished with platinized cannulæ, the syringe having been kept in a five-per-cent. solution of carbolic acid. The operation was only slightly painful, but severe pains came on some time afterward, and lasted for several hours. They were best combated by means of subcutaneous injections of morphine. An antiseptic dressing was applied immediately after the operation, and allowed to remain during the continuance of the fever of reaction, which was usually very severe and lasted from twelve to twenty-four hours. On the fifth or sixth day an immovable bandage was applied to the joint, and the stage of induration, shrinking, and perfect painlessness was attained in from three to six weeks; then massage and passive movements were resorted to for re-establishing the function of the joint. The cavities left after the fungous masses had been cast off were filled with gauze saturated with a solution of calcium phosphate. Cold abscesses were opened as freely as possible, and, without any curetting, tamponed with gauze prepared in the way above mentioned.

The following data concerning the composition of the solutions were given by Dr. Freund, who had worked in Professor Ludwig's laboratory: The first was an acid solution of calcium phosphate, of the strength of about six and a half per cent., containing one one-thousandth part of free phosphoric acid (sterilized). This was for the injections. The second was a similar solution, but containing one one-hundredth part of free phosphoric acid (or two one-hundredths for particularly torpid processes). This was for saturating the gauze.

The fungosities usually broke down and healed very rapidly after the operation, and any necrosed bone that might be present was expelled within a very short time. In cases accompanied with swollen lymphatic glands, Kolischer had observed also a systemic effect from the treatment. Among other instances, this was true of a case of tubercular affection of the mamma, in which, after the parenchymatous injections of calcium phosphate into the breast, the swelling of the lymphatic glands disappeared when the tubercular disease had been cured.

Dr. Kolischer showed some patients who had been treated by the method successfully. Two of them had had fungous (tubercular) disease of the elbow joint, with great swelling, ankylosis, pain, and fever at the time of their admission into the hospital. Now, after six weeks' treatment with the injections, the joints were normal, even their mobility being almost complete. The fever and pain had disappeared very early in the treatment. He also showed a boy, four years old, who, in spite of very grave symptoms, such as ankylosis, lateral mobility, swelling, and pain, had recovered in the course of five weeks. The rapid and striking success which had attended the employment of the method was further illustrated by the cases of other patients shown at the same meeting.

A Vienna Ordinance concerning Homœopathic Preparations.—The "Union médicale" states that a recent ministerial decree restricts the right to dispense homœopathic preparations to those homœopathic practitioners who really observe the method of dilutions laid down by the homœopathic school. The object of the ordinance is to put a stop to the abuse by which, under the guise of homœopathic preparations, all sorts of remedies have been given to patients by certain physicians.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, AUGUST 6, 1887.

THE NEW YORK STATE DEGREE.

The present organization of the New York State Board of Medical Examiners, and the understanding that seems to have been arrived at as to its future workings, as set forth in a letter from the president of the board which we publish in this issue of the Journal, seem to give promise of its doing a very necessary work in the course of coming years. The University of the State of New York, as is known to many of our readers, is not a teaching institution; indeed, there is no material manifestation in the shape of lands and buildings to give the world at large a hint of its existence. Yet, for many years it has possessed the essentials of an important position, although, having been generally looked upon as nothing more than an abstraction, even its potential dignity and power have escaped most men's observation. There has, in fact, been little more than a dreamy consciousness on the part of the community that a body of men, styled the Board of Regents of the University, held a position which perhaps called them together on rather infrequent occasions for the transaction of what might by courtesy be termed business. As to who the men were who constituted the board, and as to their fitness for the position, few have had any definite knowledge or have entertained the idea that such knowledge could in any way be of service to themselves or others. Nevertheless, the Board of Regents has in the past done some good service, and the impression has been gaining ground of late years that its functions were growing more important, and that better men were being appointed on it from year to year.

If it comes to be a common thing for the State University degree of M. D. to be bestowed upon candidates who have passed such an examination as they will have to undergo at the hands of the present Board of Medical Examiners, it will not be many years before a considerable proportion of the best-equipped medical practitioners in the State will be recognized as having obtained their degree from the organization in charge of the Regents; and that fact of itself will make the State degree sought after for other reasons than those that now actuate stray applicants. Then the University of the State of New York will seem tangible, and the citizens of the State will feel that they have an interest in the *personnel* of its Board of Regents. For one reason or another, applicants for the State examination will, it seems to us, increase in number in the course of a comparatively short time. This increase in their number would be materially accelerated if the Medical Practice Act were to be so amended as to require holders of foreign qualifications (*i. e.*, qualifications not acquired in the State) to undergo the examination, instead of calling, as at present, merely for a verification of the genuineness of foreign diplomas. The action that has been taken by some other States, and that which has persistently been carried out by almost all foreign countries, may cause the State of New York to assume such a position before long. In case that contingency is realized, it will be a source of satisfaction and security to know that a really efficient examining body has at last been formed.

MINOR PARAGRAPHS.

M. FOURNIER'S ATTEMPT TO LIMIT THE SPREAD OF SYPHILIS.

In a letter which we publish in this issue, our Paris correspondent gives the substance of a recent report by a commission appointed by the Paris Academy of Medicine to devise a scheme for limiting the spread of syphilis. While the facts presented were undoubtedly admitted, and the measures recommended approved of, by all the members of the commission, the energetic way in which they have been laid before the Academy is in all probability to be credited to M. Fournier. That being the case, it is fortunate that M. Fournier is well known to be anything but an alarmist, as is amply shown in his book on "Syphilis and Marriage." It is doubtless difficult for most persons who are not of the medical profession to realize the full import of such facts as the report brings out. On that account, physicians should neglect no opportunity to impress upon those to whom they act as advisers the far-reaching and disastrous effects of the unrestrained play allowed to the infection of syphilis. It is to be hoped that those effects may be somewhat restricted by the adoption and enforcement of M. Fournier's recommendations, not the least important of which is the one that is intended to improve the knowledge of the disease with which young physicians set out upon their career.

THE "CHICAGO MEDICAL JOURNAL AND EXAMINER."

The July number of this excellent journal, being the initial number of the fifty-fifth volume, presents a much improved appearance. The size is increased, and the typography has been made very pleasing. Facing the first page there is a woodcut portrait of the late Dr. Austin Flint. The "Journal and Examiner" is at present edited by Dr. S. J. Jones.

THE TRAINING OF CHILDREN'S NURSES.

Dr. Samuel S. Adams, of Washington, professor of the theory and practice of medicine in the National University, chose a most important theme for his recent address to the graduating class, an abstract of which is published in the "Journal of the American Medical Association" for July 30th. The subject was "The Systematic Training of Nursery-Maids." What the author found to say is very much to the point, and it concerns a matter in which every parent of young children—and, indeed, the entire community—ought to feel deep interest. We cordially approve of Dr. Adams's suggestion that training schools for children's nurses be established, for we are persuaded that much that passes for inhumanity in the *bonne* of the period is really to be traced to lack of information on just such points as the author sets forth.

A NEW ROUMANIAN JOURNAL.

We have received the first number of the "Archives roumaines de médecine et de chirurgie," a new bi-monthly journal, which, although printed in French and published in Paris, by

M. Alcan, in the same handsome style as the "Revue de médecine" and the "Revue de chirurgie," is edited in Bucharest, by Dr. Georges Assaky, the professor of clinical surgery. The entire contents, except the proceedings of societies, are of Roumanian authorship, and the articles are of exceptional interest. The formal papers are as follows: "On the Necessity of Isolation Hospitals and on their Establishment," by Dr. J. Félix; "A New Operation of Iridotomy," by Dr. N. Manolescu; "On Epithelial Grafts from the Sheep to Man," by Dr. J. Kiriac; and a "Note on the Ætiology of certain forms of Choleraic and Dysenteric Enteritis." Besides, there are several highly interesting clinical reports. Altogether, the new journal promises to be an exceedingly valuable addition to current literature.

A NEW PHOTOGRAPHIC CRANIOPHORE.

The fourteenth memoir of the third volume of the publication issued by the National Academy of Sciences consists of a paper by Dr. John S. Billings and Dr. Washington Matthews, of the army, entitled "On a New Craniophore for Use in Making Composite Photographs of Skulls." The description is illustrated with four exquisite lithographic reproductions of photographs showing the craniophore as it appears when holding a skull in various attitudes and when not in use. It is obvious that the greatest nicety of adjustability is required in an apparatus designed for such a purpose, and, judging from the printed description and from an examination of the craniophore before it was completed, we are able to say that the authors have presented a most ingenious and admirable device.

RUPTURE OF THE UMBILICAL CORD AFTER DELIVERY.

Cases are not rare in which, when a woman is delivered seated or standing, the weight of the falling fœtus severs the umbilical cord. As some medico-legal interest attaches to the occurrence, two cases lately observed by M. Budin, and published in the "Progrès médical," are worthy of note. In those cases spontaneous rupture of the funis took place, although the women were lying down at the time and the cords showed nothing abnormal either in length or in texture.

AN HOMERIC NOD.

"Lyon médical" remarks that the erudition of German authors is considered superior to that of the learned of other nations. Nevertheless, it has detected an amusing example to the contrary in one of the issues of the "Centralblatt für Bacteriologie und Parasitenkunde," in an abstract of an article in the Tscheck language, by Professor Hava, entitled "*O Uplairci*" (on dysentery). This title is made to figure as the author's name, and the additional Tscheck words "*Predbezné sdeleni*" (meaning preliminary communication) are translated "*Ueber die Dysenterie.*" But, while thus showing up a German lapsus, our French contemporary has fallen into two minor errors, for, instead of *Parasitenkunde*, it says "*Parasiterkunde*," and instead of *Ueber die Dysenterie*, "*Ueber Die Dysentie.*"

THE HOSPITAL FOR THE RUPTURED AND CRIPPLED.

Rumors have got into the newspapers to the effect that an unpleasantness has arisen between the chief medical officer of the hospital on the one side and all but one of the younger members of the staff on the other, growing out of the fact that the latter were not sufficiently discreet in regard to expressing their opinion of certain views held by the former as to methods of treatment. Two of the gentlemen of the staff are reported to have resigned, and another is represented as having declared his intention to resign. The institution has been one of great usefulness, much of the credit of which is conceded to be due to the chief medical officer, and it is a pity to see its further work hampered by ill-feeling arising out of mere differences of opinion on therapeutical points. We trust, therefore, that the accounts given to the public may prove to have been overdrawn, and that mutual concession may lead to a resumption of harmonious relations between the various medical officers.

EXUBERANT GRANULATIONS AFTER TRACHEOTOMY.

It is well known that a profuse formation of granulations sometimes gives rise to serious embarrassment in the progress of cases in which tracheotomy is performed and there is occasion for the patient to wear the tube for a protracted period. Dr. Störk has studied into the causes of this complication and the means of preventing it, and has contributed an article on the subject to the "Wiener medicinische Wochenschrift," an abstract of which is given in the "Centralblatt für Chirurgie." According to Störk, the laryngeal mucous membrane undergoes degenerative changes in consequence of the discontinuance of the natural current of air through the larynx—changes comparable to those which take place in the nasal passages when breathing through the nose is impeded by polypi or adenoid growths. By using tubes having numerous small perforations on the upper part of the convexity, so as to allow of some access of air to the parts above, he has succeeded to a certain extent in preventing the degeneration in question and the consequent formation of granulation masses.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 2, 1887:

DISEASES.	Week ending July 26.		Week ending Aug. 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	5	30	16
Scarlet fever	42	6	33	8
Cerebro-spinal meningitis	2	1	4	4
Measles	33	4	32	5
Diphtheria	88	27	90	29
Small-pox	2	2	2	1

OBITUARY NOTES.

Frederick L. Fischer, M. D., a graduate of the University of Tübingen, of the class of 1842, died at his residence in New York on Sunday, July 24th. The deceased was a member of the Medical Society of the County of New York and of the Medico-chirurgical Society of German Physicians. At the time of his death he was in his seventy-first year.

Letters to the Editor.

THE MEDICAL DEGREE OF THE UNIVERSITY OF THE STATE OF NEW YORK.

110 West Thirty-fourth St., New York, *July 25, 1887.*

To the Editor of the New York Medical Journal:

Sir: A law of 1874 established for the State of New York a State Board of Medical Examiners. Frequent deaths and occasional resignations changed its original membership several times, until, upon the recommendation of the undersigned (who therefore objected repeatedly to his own appointment) and for reasons easily understood, all the members of the present board, with one exception, were selected by the Honorable the Board of Regents of the University of the State of New York, from among the medical men of Albany, the seat of the Government and the Board of Regents.

The profession never expected the law as it was passed in 1874 to be efficient. It was believed by many that some of the medical colleges objected to the establishment of a State board altogether, though others were known to favor it. It was certain that sectarian influences succeeded in undermining the passage of the original bill and emasculating it. *It is certain* that no State board of examiners will ever benefit either the profession or the public, both of which stand in equal need of it, until the license to practice medicine depends on the *compulsory* passing of a successful examination before the State board. As the law stood, nobody ever applied for examination, and the degree of M. D. of the University of the State of New York, who was in the possession of a diploma from a college in good standing. Such few as volunteered to come forward were men who had previously failed in their college examination, or "practiced medicine" without study, knowledge, or any title whatsoever. There being no rules and regulations referring to a minimum of accomplishments or requirements, a few of these were let loose upon the unsuspecting public with a diploma; the majority, however, failed.

When the new board was appointed in the beginning of this year, its members accepted their positions upon the condition that the Board of Regents would authorize a number of rules and principles which were to regulate the examinations. I am directed by the Board of Examiners to present them to you for your information and, if you deem proper, for publication and comment. We know quite well that, as long as the examination by the State board is not made *compulsory*, any number of rules and principles will prove their inadequacy and inefficacy again and again. But the present board hopes that its earnest recognition of the rights and dignity of medical science, art, and practice will be admitted by, and found acceptable to, the profession, and that the latter, after a minimum of requirements for the admission into the ranks of the profession has been officially accepted by the Regents, will feel encouraged to continue its exertions in behalf of both the elevation of the standard of medical education and the protection of the public.

Not one of the recent applicants for a degree has proved successful. One of them had failed in his college examination a few weeks previously, and now threatens to swell the number of graduates of the "University" of a neighboring State. Similar occurrences are not at all rare. Candidates failing in one college will obtain their degrees from other colleges, in the same State or other States. Will not that suggest the necessity, instead of a State board, of a United States board of examination?

Very respectfully,

A. Jacobi, M. D.

[Our correspondent incloses the following document:]

"The members of the State Board of Medical Examiners accept their positions with this understanding:

"A candidate for the degree of Doctor of Medicine to be given by the Board of Regents either desires an additional degree after he has received a diploma from a chartered medical college, or he has no diploma from any chartered medical college and desires or prefers one from the Board of Regents. The degree given by the Board of Regents is to be, or become, an honorable distinction. It must be the object of the law to protect the people and to ennoble the medical profession, and not to facilitate the entrance into it of persons unfit or unqualified. The profession does not require larger numbers, but does insist upon an elevated standard. Therefore the examination must be strict, and must be conducted according to the following rules:

"1. The examinations before this board shall be conducted in the English language exclusively.

"2. The candidate shall be allowed two and a half hours for each examination. The examination shall be in writing. The candidate must not consult books, extracts, notes, or other persons, and must not communicate with any one during the two and a half hours allotted to him. To do so is to be considered a failure to pass.

"3. The examination in clinical medicine and in clinical surgery shall consist in the actual examination of patients by the candidate, and a discussion in regard to the diagnosis, prognosis, and treatment of the cases.

"4. The examination in chemistry shall include the actual testing of a specimen of urine, in regard to its reaction, specific gravity, and the presence or absence of albumin and sugar.

"5. Each examiner shall have the privilege, if he so desires, of supplementing his written examination by an oral one, in the presence of two other members of the examining board.

"6. The scale of marks shall be from zero to ten; ten being perfection, and anything below six being a failure to pass the examination.

"7. The questions and answers with their marks shall remain in the possession of the Board of Regents, and shall be open to inspection.

"8. When the candidate shall have completed all his examinations, the Board of Examiners shall meet and hear the result of the examination in each branch. And within ten days thereafter each member of the board shall make a written report as to the merits and acquirements of the candidate, being guided in this report not alone by the result of the examination in his particular branch, but also by the result of the examinations in the other branches. And each member of the board shall send his report, together with the questions and their answers and their marks in his branch, to the secretary of the Board of Examiners, to be by him transmitted to the secretary of the Board of Regents.

"And, furthermore, it is the opinion of the Board of Examiners that, in order to receive the degree of Doctor of Medicine, the candidate should successfully pass in every branch, or at least in every branch but one.

"State Board of Medical Examiners.

"Abraham Jacobi, M. D., president; examiner in pathology.

"Albert Vanderveer, M. D., vice-president; examiner in surgery and in clinical surgery.

"Henry Hun, M. D., secretary; examiner in clinical medicine and in materia medica and therapeutics.

"James P. Boyd, M. D., examiner in obstetrics.

"Franklin Townsend, M. D., examiner in physiology.

"Samuel R. Morrow, M. D., examiner in anatomy.

"William Hailes, Jr., M. D., examiner in histology.

"Willis G. Tucker, M. D., examiner in chemistry."

"SOME UNSOLVED CLINICAL PROBLEMS."

May 23, 1887.

To the Editor of the New York Medical Journal:

Sir: Having been much interested in the paper by W. H. Flint, M. D., entitled "Some Unsolved Clinical Problems," I beg leave to offer tentatively the following:

In the article it is stated that "after a month's treatment the diseased conditions alluded to had disappeared."

The problematic œdema then arose. Evidently the patient was of strumous diathesis, which, in this instance, could not be eradicated by treatment; perhaps care and food might remove it in the course of one or two generations. The bronchitis seemed to be the escape-valve, so to say, of the cacoethes. By therapeutic interference, or in the natural process of physiology —possibly through both—supposably, this relief was stopped;

the *materies peccans* went wandering about, locating itself from time to time in tissues for which it had affinity (glandular, nerve-enveloping, and connective tissue, among others), causing œdema, disturbance of physical and mental sensation, emesis, semi coma, etc.

It is believed that hysteria, struma, and phthisis are forms of manifestation—diathetic alternates—due to a single constitutional impress; this may throw light upon the "problem."

The presumable ætiological relation of "chilling of the surface" does not appear to be opposed to this view. I would suggest that prophylaxis should provide an *éconduit* for the inborn or developed diathetic *daimon*, destruction of the same being scarcely practicable, as it doubtless constitutes a part of the physiology of the patient. Corroborant medicine rather than special pharmacal therapeusis may be indicated.

It occurs to me that, in this connection, aid might be had from the philosophic ideas of "Disease a Part of the Plan of Creation," and other essays by B. E. Cotting, M. D., ex-president of the Massachusetts Medical Society.

Respectfully,
F. B. Stephenson, M. D., U. S. N.

A VISIT TO DR. HIRAM CORSON.

Philadelphia, *July 26, 1887.*

To the Editor of the New York Medical Journal:

Sir: A few evenings ago, in company with some medical friends, I called upon a prominent member of the profession. After a long drive over rough country roads, past many farmhouses nestled among the trees, we turned into a drive which led us to a large, comfortable stone house situated in the midst of a level lawn across which several large trees threw their shadows. As the carriage stopped, we were met by a man rather above the medium height, spare in person, with snow-white beard and hair, who beamed a kindly welcome through his spectacles when he greeted us and presented us to his wife, whose welcome was not less warm as she led us indoors.

An ideal host we found him, engaging each one in conversation separately for a few minutes, making that one feel, for the time being, that no other guest was present, and then causing the conversation to become general, leading it into channels interesting to all of us.

I speak of Dr. Hiram Corson, of Plymouth Meeting, Montgomery County, Pa., who, although he will be eighty-three years old in October, is in vigorous mental and physical condition, bidding fair to render service to humanity for some years to come. as he is still in active practice, but rarely goes out at night, as his wife informed one of our party.

A little distance from the house is "the office," a frame building with one room, on one side of which are shelves, almost from floor to ceiling, well filled with books and bottles of drugs, the latter being a necessary part of a country physician's armamentarium. A table in front of one of the windows was covered with manuscript, and the doctor informed us that he was writing a paper on the use of "Cold Applications in Inflammation." Every one knows what an advocate of this treatment he is. Scarcely were we seated in the parlor before he asked one of our number if he had ever used "cold." This led to a general discussion of the subject, and Dr. Corson spoke of its being so superior to poultices in pneumonia. Upon being asked *how* he applied it, his reply was: "I take a bladder, or rubber ice-bag, fill it about half full of water and then put in pieces of ice; to put in pieces of ice alone makes an uneven surface, which is not readily applied to the chest."

He has used cold applications in many diseases—in scarlatina to reduce the temperature and allay the throat symptoms. He has observed in this disease that if the cerebral symptoms were well marked the throat symptoms were not so prominent. He thinks the reason for this is that, when the cerebrum is much affected, the whole nervous system is affected and the glandular system is less apt to become involved.

An article of his, on the use of "Cimicifuga in Chorea," which appeared in the "Medical and Surgical Reporter" a few months ago, was mentioned, and he was questioned as to the dose and preparation. He uses the infusion, giving a teaspoonful three times a day, gathering the root in the early autumn and preparing it himself, thus being sure of a *reliable* preparation. Two other articles of his which have recently been published—"Sumach in Stomatitis" and "Quinine in Pneumonia," both in the same journal as the preceding—were mentioned and discussed at some length. And so one subject after another was brought up, and we all listened eagerly to the opinions of a man who for nearly sixty years has been practicing medicine in this quiet country place, and for more than half that time has been an acknowledged leader in the profession, clearly demonstrating that prominence and great intellectual development are not confined to those who dwell in the city, boast as we will of its superior advantages.

Mary Willits, M. D.

APOMORPHINE.

To the Editor of the New York Medical Journal:

Sir: In a case of arsenical poisoning described in your last week's issue, your correspondent does not seem to attach much importance to the action of the emetic used—apomorphine. I suppose that, in all cases of poisoning, the simpler the emetic used, the better. In my manuscript note-book, arranged alphabetically, that I keep, is the following note regarding apomorphine: "Powerful emetic and contrastimulant; induces speedy vomiting, but it has *the disadvantage of causing great muscular depression.*" C. E. Nelson, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of April 25, 1887.

The President, Dr. Laurence Johnson, in the Chair.

External Urethrotomy; a Plea for its Performance in Minor Traumatisms of the Urethra.—Dr. L. Bolton Bangs read a paper with this title. By external urethrotomy he meant division of the perinæum in the male down to and into the urethra for the prevention and cure of stricture and its consequences, whether the stricture was acute, chronic, traumatic, or of any other kind. He stated some propositions on which he invited discussion. The first was that the operation should be resorted to earlier than it usually was. His observation in hospital practice had led him to the conclusion that the patients' condition had been made infinitely worse by delay in performing external urethrotomy. The deeper urethra was liable to become fixed in a semi-cartilaginous mass which any late operation would not entirely relieve. It should be performed early in cases of blows or kicks of the perinæum, falls astride objects, or penetrating wounds of the perinæum and urethra. It should be resorted to in some cases as a prophylactic measure against stricture, when there was simply the external appearance of a bruise. There should be no delay in case of bleeding from the urethra or evidence of extravasation of urine. The urethra and the tissues around it having been injured, the process of repair would soon begin, but it was to be periodically interrupted or interfered with by the necessity of the urethra performing its function; the bladder had to expel its contents, and sometimes it did so with great violence. This performance of its function on the part of the urethra at first caused irritation in the wounded parts, then inflammation; finally cicatricial tissue was formed in and around the urethra. In another class of cases the damage to the perinæum and urethra was greater; retention had occurred. Failing in catheterism, the practitioner had resorted to various remedial measures—aspiration, opium, etc. The patient's bladder thus ceased to trouble him, but in a few hours he experienced pain in the perinæum; extravasation had taken place, forming a fistula connected with the urethra. The indications for treatment in all these cases were to secure absolute rest of the wounded parts if possible, and to prevent extravasation of urine. It seemed to him that external urethrotomy would meet those conditions, opening the urethra posterior to the injury if possible. What would it accomplish? It would prevent the forcing of urine into the laccrated or lame urethra, and thence into the cellular planes; it would enable the urine to be drained away in drops, with scarcely any effort on the part of the muscles to expel it; physiological rest ensued; repair of the tissues took place, instead of inflammatory action. To attain these ends the operation should be performed as early as possible after the injury. The first practitioner called to the case should do it; but, of course, much depended upon his manual dexterity. But any fairly competent man, who had a catheter and a scalpel, could perform it. Another class of cases in which external urethrotomy was indicated was those of perineal abscess in connection with strictures of the urethra of large caliber. In these cases it was not sufficient to evacuate the abscess and rely upon catheterism. The urethra should be divided at the time the abscess was opened, lest, in allowing the cause of the latter to continue, a more deplorable result should follow. A case was cited in illustration of the fact that extravasation of urine might finally result after injury of the perinæum, even when the urethra continued to admit a fair-sized catheter. A follicular diverticulum from the urethra had been quietly and insidiously forming, a small quantity of urine probably entered it at first; this irritation aggravated the condition in the submucous tissues, sufficient swelling took place to oppose the passage of the urine, while a catheter could still be introduced; this obstruction caused the patient to strain, and the more he strained the greater was the amount of urine forced into the false passage.

The second proposition was that the operation of external urethrotomy was devoid of danger—not absolutely, because that could not be affirmed of any operation upon the human body. The dangers and difficulties had been over-estimated. The dangers, such as there were, related to the state of the patient before the operation, or the conditions making the operation necessary. His examination of hospital records had shown that when death had followed external urethrotomy it had been due to a devitalizing disease, usually some disease of the kidneys. Such cases would occur less frequently in the future, because patients would receive relief before serious pathological changes in the kidneys, etc., had taken place.

Dr. F. N. Otis fully coincided in all that Dr. Bangs had said with regard to the probable benefit to be obtained by an early operation in cases of external injury of the perinæum and urethra. The most difficult cases were those of traumatic origin. The resulting stricture was often so extensive that it could not be divided so completely as to prevent its return. With regard to the cases in which there was follicular urethritis, he thought they were of the greatest interest to the surgeon. He believed that nineteen twentieths of the cases of perineal swelling were due to extravasation of urine, and that the earlier external urethrotomy was performed, the better would it be for the patient. He had never seen a fatal result from its performance; death could always be traced to disease of the bladder and kidneys, etc., which had existed prior to the operation.

Dr. E. L. Keyes had nothing to say in opposition to the views expressed in the paper. On the contrary, he could indorse them with the full weight of his experience. He would not only resort to external urethrotomy in the cases referred to by Dr. Bangs, but also in cases of stricture in the curved portion of the urethra which were not easily controlled by perhaps the simplest of all methods—namely, gradual dilatation. He said perhaps, because he was growing less positive regarding the advantages of dilatation than formerly. External urethrotomy had formerly been regarded as a difficult operation. He could hardly conceive of an operation which was easier when it could be done upon a guide; when a guide could not be inserted, the operation was more difficult. The dangers of the operation were of the simplest kind. He referred to a case similar to one related by Dr. Otis. The patient about fifteen years ago received an injury of the perinæum, which was followed by infiltration of the tissues, and an incision brought forth pus. The urethra was patulous, and admitted a fair-sized catheter, and consequently was not divided. But the patient had since suffered to a certain extent from the results of the injury, from slight constriction of the deep urethra; and, if the speaker had the experience to repeat, he would cut not only the infiltrated perineal tissue, but also into the urethra. When lumpy hardness developed about the urethra, it was apt to be attended by the follicular ulcerative process referred to by the author, and, if this pus did not have an opportunity to escape externally, it would enter the urethra. Thus there was a little cistern, as it were, constantly discharging its pus into the urethra. Experience taught that the proper treatment consisted in cutting through that inflamed area for the purpose of establishing drainage, and, if so much cutting had been done to get down to it, certainly carrying the incision on into the urethra would not seriously complicate the operation. The former custom of dilating deep urethral strictures was falling gradually into disrepute. If the tissues were not tight, if the stricture was not resisting, the patient might get along without suffering special inconvenience by passing a moderate-sized sound; but when the stricture was tight, the patient was likely at any time, by passing sounds of increasing size, to get up a urethral chill, an inflamed testicle, and all sorts of complications. Such accidents were not apt to occur if the deep urethra was divided by external urethrotomy. The operation of divulsion in such cases had pretty much fallen into disuse, and internal urethrotomy in his experience was disastrous. If he himself had a deep urethral stricture he would vastly prefer to have it cut externally to having it stretched or cut internally to a sufficient extent.

Dr. Charles McBurney had been glad to hear ideas which were gradually and surely gaining the approval of surgeons expressed so clearly by Dr. Bangs. He thought external urethrotomy for traumatism of any moment was a highly proper procedure. It was proper because it was the only means of avoiding dangers which were immediate and also remote. Regarding the operation itself, he thought something might be said which would tend to lessen the fears of the patient, and those of physicians not accustomed to perform it. The object of the operation was only to provide for perfect drainage of the urine and products of inflammation. It was not done for the purpose of dividing the stricture. There might be a stricture three or four inches in length in the deep urethra, but it was not necessary to try to divide it when performing external urethrotomy. The latter operation was performed for the purpose of drainage, and a small opening was sufficient. The stricture could be divided by internal urethrotomy. External urethrotomy need not involve a single important structure; hæmorrhage could be controlled without any danger. If these facts were borne in mind, he thought the operation would lose some of its terrors. There were some cases of slight traumatism of the urethra which did not call for external urethrotomy, but they were very difficult to define. He might say, however, that, in a case of injury to the perinæum in which there was no evidence of laceration of the urethra other than perhaps the escape of a few drops of blood, in which there was no tumefaction of the urethra, in which it was perfectly easy to pass a large instrument, and in which there were no crevices to engage a small instrument, he would not do external urethrotomy. But he would wash out the bladder after each evacuation.

Dr. Bangs was glad to see such uniformity of opinion with regard to the propriety of external urethrotomy in the class of cases under discussion. In further illustration of its importance, he said a man had recently come under his observation who had fallen upon a table five months before, striking the perinæum, in consequence of which there resulted slight tumefaction, and scalding on urination. No blood escaped from the meatus. He was catheterized by the attending physician, and then passed from under his notice. To-day it was difficult to pass a filiform bougie. External urethrotomy would now have to be performed.

Baldness; What can we do for It? was the title of a paper read by Dr. G. T. Jackson. Alopecia præmatura alone received attention. Premature baldness, it might be said in a general way, was that occurring before the forty-fifth year, although the period was arbitrary. Subdivisions were made into idiopathic and symptomatic. The idiopathic form began unannounced by any antecedent disease. Many families had it for generations. The different causes alleged for it were named, but the author gave particular attention to the influence exerted by want of proper care of the hair, as this was under the control of the patient and was a part of prophylaxis and treatment. He was inclined to think that due attention to proper care of the scalp and general hygiene of the body were more reliable than any so-called remedies. Women gave more care to their scalps, and not only was baldness less common among them than among men, but the results of treatment were better. In families in which baldness was hereditary, prophylaxis should commence at birth with proper cleansing of the scalp, the use of soap and water, the brush and comb, and the avoidance of all things which might injure the scalp. The shampoo need not be repeated more than once or twice a week, and after drying, some unguent, such as sweet oil, should be applied. What not to do was nearly as important as what to do. Pomades, as they were liable to become rancid and injure the scalp, should not be used. Wetting, twisting, pulling, and scorching the hair, as fashion demanded, were injurious. Close-fitting hats and caps should not be worn. Anxiety of mind should be combated by cultivating a cheerful disposition. Baldness due to dandruff, syphilis, typhoid fever, etc., next received attention. In addition to treatment appropriate to the special disease, the author again urged the importance of systematic care of the scalp and hair.

Dr. G. H. Fox said that, when baldness was evidently due to some seborrhœal condition, to want of cleanliness of the scalp, the shampoo would do a great deal of good. When it was due to shock or other nervous state, we should have to rely upon hygiene. Then there was a large class of cases which dermatologists had tried to explain in different ways, but he thought their explanations were pretty much on an equality; they did not explain it. He, too, had once thought that baldness was due to disappearance of the subcutaneous tissue and tightness of the scalp, but on examining patients he had found the scalp quite movable in many of them. Nor did he believe it was due to high hats, or compression of the blood-vessels by the head apparel. In brief, he did not believe baldness in many cases could be accounted for, any more than an explanation could be given for the musical talent in some and for the mechanical in others. Patients should reconcile themselves to the homely statement, What can not be cured must be endured.

Dr. W. M. Carpenter inquired whether the custom among some physicians of cutting the hair short during or just after an attack of typhoid fever had any beneficial effect upon the hair.

The President was a firm believer in high, stiff hats as a cause of premature baldness, and as a basis for his belief said that baldness was much more common now than twenty years ago.

Dr. Fox doubted whether baldness was more prevalent now than twenty years ago, and Dr. Jackson said that high hats had been worn by young people in England almost for centuries, yet baldness was not apparently on the increase. He and Dr. Fox both thought no benefit was derived from cutting the hair in typhoid fever.

Book Notices.

The Cremation of the Dead considered from an Æsthetic, Sanitary, Religious, Historical, Medico-legal, and Economical Standpoint. By Hugo Erichsen, M. D., etc. With an Introductory Note by Sir T. Spencer Wells, Bart., F. R. S., etc. Illustrated. Detroit: D. O. Haynes & Company, 1887. Pp. xiv–264. [Price, $2.]

In an argument intended rather for popular than for professional reading, Dr. Erichsen has concisely stated the present aspect of the cremation controversy, fortifying his position as an advocate of incineration by a review of the past and contemporaneous literature of the subject. There are few educated and intelligent people—none, surely, who are versed in the records of sanitary science—who are not aware of the possible, and often real, dangers of inhumation or sepulture in the neighborhood of human habitations, and prohibition of intramural interments has been adopted as a measure of self-preservation in most civilized communities. Still, however, suburban cemeteries are sometimes permitted to pollute with their drainage public sources of water-supply, and, as population increases, are here and there absorbed into the inhabited area, to the very evident verification of the proverb that "the evil which men do lives after them." Vegetation, it matters not how luxuriant, can dispose of but a small proportion of the organic substances which choke the soil in even a sparsely occupied burial ground; the unutilized remainder undergoes putrefactive changes which are as prejudicial to the health of the vicinage as they are revolting to the senses. Of the various substitutes for burial which have been proposed or practiced at different times, the most practicable is undoubtedly cremation, which simply effects rapidly and harmlessly the same result of oxidation that is slowly, repulsively, and incompletely achieved by the ordinary processes of decomposition. From a hygienic point of view there can be no dispute touching its advantages; the only objections to its employment are based upon sentimental, theological, or medico-legal considerations. To overcome the prejudice on the first of these grounds, naught can be needed but a realization of the foul degradation of the body in the course of ordinary decomposition; knowing which, as Sir Spencer Wells observes in his introductory note, "public sentiment must favor cremation in place of corruption, and for putrefaction substitute purification." In addition to dwelling on the æsthetic recommendations of incineration, the author points to the assurance it affords against burial alive, a fate which, if rare, has nevertheless been verified in a sufficient number of instances to sustain popular terror of its occurrence. The opposition of a few narrow-minded persons, on the score of interference with the resurrection by such "destruction" of the body, is founded in such manifest ignorance as scarcely to merit refutation, but for the benefit of these it is shown that interment and incineration lead to precisely the same result, and that the imagined imperilment of a future life would apply not only to those who have been lost at sea and devoured by fishes, but also to the martyrs who have been burned at the stake. The more common ecclesiastical reproach that cremation is a heathen practice, contrary to Christian custom, is met by the obvious statement that interment or cave-burial is equally heathen; that it is nowhere enjoined by the Scriptures; that, on the contrary, cremation, as well as inhumation, was in use among the Hebrews, and was regarded as an honor to the illustrious dead; and, finally, that the very words of the funeral service, "Ashes to ashes," indicate a recognition of the propriety of this method of disposing of the dead. As concerns the supposed facilitation of poisoning or other murderous practices, it is argued that few cases which escape detection before death are likely to be discovered by exhumation. The vegetable alkaloids, save strychnine, the cyanogen compounds, phosphorus, etc., are undetectable in the cadaver a few days after death, while the mineral poisons ordinarily used are discoverable in the ashes. Moreover, as matters stand to-day, says the author, it is puerile to think that we can prevent the rich and skillful poisoner from committing crime as long as we permit him to employ undertakers who, without restraint of law, inject arsenate of sodium and corrosive sublimate into the body of his victim, and thus remove all traces of his crime. Indeed, it is maintained that the chances of concealing unnatural death would be lessened by the general adoption of cremation, with the safeguards enforced by the Cremation Society of England, which has the following among its requirements: "A certificate must be sent in by one qualified medical man at least, who attended the deceased until the time of death, unhesitatingly stating that the death was natural, and what the cause was. If no medical man attended during the illness, an autopsy must be made by a medical officer appointed by the society, or no cremation can take place."

An interesting history of cremation in all ages and among all peoples, and an illustrated account of the different crematoria and processes of incineration employed here and abroad, fill out the contents of a book which, though avowedly having little pretension to originality, is a satisfactory exposition of nearly all that can at present be said about a subject destined to occupy a prominent place in public consideration in the not far distant future.

Du développement du fœtus chez les femmes à bassin vicié. Recherches cliniques au point de vue de l'accouchement prématuré artificiel. Par le Dr. Felice La Torre, membre correspondant étranger de la Société obstétricale et gynécologique de Paris, membre de la Société française d'hygiène. Paris: O. Doin, 1887. Pp. 342.

This handsome volume, which, besides the text, contains a great number of large folded statistical tables, must be regarded as a most substantial contribution to obstetrical literature. It is practically a study of the question of the expediency of inducing premature labor in cases of pelvic contraction. The author's consideration of the question is founded entirely on clinical observation, everything theoretical or simply plausible being subjected to this crucial test. Happily, pelvic deformities have not yet become common among our native women, but the extent to which they complicate the process of parturition in the Old World may be inferred from the fact that, since the year 1867, Dr. La Torre has been able to study thirteen hundred and twenty-five examples in the hospitals of Paris. The author effectually demolishes the doctrine upheld by Chiara, that the fœtus is under-developed in correspondence with any ordinary narrowness of the pelvic canal that may exist in the mother, and that therefore spontaneous labor at term is quite as safe a process in the subjects of pelvic contraction as in women of normal build. A more unsound and unsafe doctrine could hardly be mentioned, and the author is entitled to great credit for having so completely demonstrated its true character. The book constitutes a strong argument in favor of interference. The author considers the fœtus viable at the expiration of one hundred and eighty days of gestation.

Sur un nouveau traitement de la métrite chronique, et en particulier de l'endométrite, par la galvano-caustique chimique intra-utérine. Par le Dr. G. Apostoli, Professeur libre de gynécologie et d'électro-thérapie à l'école pratique. Paris: Octave Doin, 1887. Pp. 68.

The author's work in the field of electro-therapeutics, especially as applied to gynæcology, is by no means unknown in this country. Probably no one has done more or better work in the way of introducing, or rather popularizing, this means of treatment. The chief claim to originality which is made by him consists in the use of a layer of moistened sculptor's clay, which is spread over the abdomen, to diminish the resistance of the skin and permit of the passage of currents of high intensity without burning. By this means the caustic effect is limited to the uterus, and the author reports an extensive and very satisfactory experience in treating uterine disorders, both those of the mucous membrane and those of the parenchyma. The use of the milliampèremeter, or improved galvanometer, will certainly bring about a new era in the use of electricity. It has been abundantly proved that it is an agent of great utility in the treatment of pelvic and uterine disorders. That it may be used in currents of much greater intensity than was formerly believed wise or safe seems to have been demonstrated. We can commend the author's bi-polar intra-uterine electrode from personal experience. The impracticable teaching in the author's monograph is the recommendation to use an intra-uterine faradaic current as routine treatment after abortion or normal labor. That it may sometimes be desirable is sufficiently evident from the great prevalence of subinvolution and kindred disorders, but there are very many reasons why it would be impracticable or impossible to subject every parturient woman to such a course of treatment. The essay is well worth careful reading, and should stimulate judicious experimentation.

Lehrbuch der Kinderkrankheiten. Für Aerzte und Studirende. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universität Berlin. Zweite vermehrte und verbesserte Auflage. Braunschweig: Friedrich Wreden, 1887. Pp. xix–902.

It is no discredit to the author to say that his book is suggestive, in some respects, of Vogel's, and may be regarded as supplementary to that excellent treatise. The author seems to us to have continued the work begun by Vogel, and in a most creditable manner, for he has given us an exhaustive treatise upon the diseases of children; in fact, it would be difficult to mention half a dozen subjects in special pathology which he has not considered. The industry which is required for producing successive editions of such a work can be appreciated only by those who have had similar experience, and we congratulate the author upon the thoroughness with which he has followed up his subject, producing a book which is most convenient and useful for reference. Without wishing to make invidious discrimination, we venture the suggestion that the weak point of the book is its therapeutics, and this is a subject which, in the diseases of children more positively than in those of adults, can not be dismissed in general terms. The author has a promising field before him as the successor of Henoch, and his previous career justifies the prediction that he will prove a worthy one.

Practical Lessons in Nursing. Outlines for the Management of Diet; or, the Regulation of Food to the Requirements of Health and the Treatment of Disease. By Edward Tunis Bruen, M. D., Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 138. [Price, $1.]

The fundamental physiological principles which obtain in digestion are admirably set forth in this little volume. It is an excellent book for its many hints regarding the action of foods, regulation of diet, etc. It will be of great service to young nurses on account of its numerous suggestions concerning the preparation of various articles of food for the sick-room. It is worthy also of a place on the physician's table, among those books which are aptly called hand-books, for it contains many important details, too easily forgotten amid the pressure of more serious considerations, which can thus be recalled and grasped at a moment's notice.

Practical Lessons in Nursing; Maternity, Infancy, Childhood, Hygiene of Pregnancy; Nursing and Weaning of Infants; the Care of Children in Health and Disease. Adapted especially to the Use of Mothers or those intrusted with the bringing up of Infants and Children, and Training Schools for Nurses, as an Aid to the Teaching of the Nursing of Women and Children. By John M. Keating, M. D., Visiting Obstetrician and Lecturer on the Diseases of Women and Children, Philadelphia Hospital, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 221. [Price, $1.]

This is an admirable little work for the purposes set forth in its title. Its style is clear and its matter thoroughly practical, and, though it is repetitious to an unnecessary degree, especially upon the subject of feeding, it is, still, a work which is to be commended. The chapters upon stomach and intestinal troubles are the ones which are most valuable, as it is these affections which a mother or nurse is most apt to recognize in their preliminary stages. There is an entire absence of technical terms in the treatment of the various subjects, and we are certain that there is many a practitioner who might read these pages not only with pleasure but also with profit.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—C. Richet, "Essai de psychologie générale." (2*fr.* 50.)

J. B. Baillière & fils, Paris.—P. Favel, "Les médicaments du cœur." (2*fr.*)

A. Delahaye & E. Lecrosnier, Paris.—P. Latteux, "Manuel de technique microscopique." 3d ed. (13*fr.*) —— Gélineau, "Traité de l'angine de poitrine." (8*fr.*) —— Crouzat, "La pratique obstétricale." (5*fr.*) —— Pouillet, "L'onanisme chez la femme." 5th ed. (3*fr.* 50.)

O. Doin, Paris.—C. Ferreira, "Études sur la coqueluche." —— Brochard, "L'art d'élever les enfants." 15th ed. (0*fr.* 25.)

F. Savy, Paris.—A. Gautier, "Cours de chimie." 2 vols. (32*fr.*) —— L. Gautier, "Analyse chimique et microscopique de l'urine." (3*fr.* 50.)

G. Steinheil, Paris.—Merigot de Freigny, "Étude sur les hernies du gros intestin."

BOOKS AND PAMPHLETS RECEIVED.

Gerhardt's Handbuch der Kinderkrankheiten. Nachtrag II. Die psychischen Störungen im Kindesalter. Von Dr. H. Emminghaus, Professor und Vorstand der psychiatrischen Klinik in Freiburg i. B. Tübingen: H. Laupp, 1887. Pp. viii–293.

Oxygen as a Therapeutic Agent. Its Germicidal and Healing Qualities; its Consequent Adaptability to the Treatment of Consumption and Pulmonary and Throat Troubles generally; its Place in Surgery. With a Report of Twenty Cases treated in the Practice of Drs. Rothwell. By P. D. Rothwell, M. D., Denver, Colorado. [Reprinted from the "Denver Medical Times."]

Osservazioni cliniche sull' antifebbrina. Per il Dott. Umberto Dieci, Ospedali Civile di Modena.

The Farmer's Veterinary Adviser. A Guide to the Prevention and Treatment of Disease in Domestic Animals. By James Law, Professor of Veterinary Science in Cornell University, etc. With Numerous Illustrations. Eighth Edition. Ithaca: Published by the Author, 1887. Pp. viii–520. The Lung Plague of Cattle, Contagious Pleuro-Pneumonia. By James Law. With Illustrations. Ithaca: Published by the Author, 1887. Pp. 97.

Trattato della difteria. Per il Cav. Dott. Vincenzo Cozzolino. Prof. pareg. della R. Università di Napoli, etc. 1° Volume. Statistica.—Biologia del virus difterico.—Batteriologia.—Igiene.—Storia epidemologica dell' epidemia difterica di Reggio-Calabria nel 1884. (Guida per il pratico a letto del difterico.) Napoli: Stabilimento Tipografico dei Classici Italiani, 1887. Pp. xxvii–380.

An Inquiry into the Transmission of Infectious Diseases through the Medium of Rags. By Charles F. Withington, M. D.

Alcohol again: a Consideration of Recent Misstatements of it Physiological Action. By Joseph W. Warren, M. D., Assistant in Physiology in the Medical School of Harvard University.

Electricity in Gynæcological Practice. By Andrew Graydon, M. D., Clinical Assistant at the Jefferson Medical College Hospital, etc., Philadelphia. [Reprinted from the "Medical News."]

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

Some of the Rarer Symptoms produced by Gall Stones.—Ord ("Brit. Med. Jour.") took this subject as the basis of a paper read at the last annual meeting of the British Medical Association. He first drew attention to the circumstance that gall stones might exist without producing symptoms, as was evident from the number frequently found post mortem in cases in which their presence had not been suspected during life.

Gall stones may be passed without symptoms. Two or three illustrative cases of the kind were briefly related. One was in a woman who had had no previous signs of gall stones, and who, the day after her confinement, passed a gall stone of such an enormous size that its passage was attended with almost as great difficulty as a second labor, and it was hence dubbed "the twin." Gall stones may give rise to pain, vomiting, etc., without causing jaundice. A patient was subject to irregularly recurring attacks of pain in the region of the gall-bladder with associated vomiting and faintness. She had never had jaundice nor passed pale stools. She was seen by many physicians, and various diagnoses were made excepting the correct one. The patient died in an attack a few months later, and was found to have had a large biliary calculus, which had made its way through a perforation in the gall-bladder into the peritonæum. Gall stones may produce intermitting pyrexia. Both Murchison and Charcot have drawn attention to this, the former attributing it to a nervous irritation, the latter to a uroseptic fever. Ord's attention was first called to this complication by some remarks by the late Dr. Murchison having reference to the case of a distinguished Indian medical officer, who, after his return to England, was attacked with paroxysms of shivering, followed by fever and sweating, at regular weekly periods. He was supposed, at first, to have a recurrence of an old intermittent, and, later on, to have hepatic abscess, till at last his symptoms indicated, and the necropsy proved, that his actual and only disease was a gall stone so impacted as to produce great irritation, but not complete obstruction, of the common bile duct. A case of glycosuria came under the author's observation which seemed to be due to a gall stone, and which disappeared, as well as the concomitant symptoms of emaciation, thirst, etc., on the passage of the gall stone. In another case an attack of pneumonia developed in the subject of biliary calculus, and to the author it appeared to be in some way dependent upon it. The co-existence of gall stone with malignant disease of the gall-bladder and the parts immediately adjoining has been recorded frequently enough to give rise to the speculation as to how far the presence of gall stones would be capable of causing malignant disease. The author has met with a few cases in which the evidence was of an affirmative nature. He has seen two cases in which the passage of gall stones was attended with sharp hæmorrhage. In one the hæmorrhage preceded the passage of a large gall stone without biliary obstruction. The bleeding might have been due to the tearing of the opening between the gall duct and the bowel. In the second case considerable hæmorrhage occurred directly after an attack of biliary colic with jaundice. After the cessation of the hæmorrhage, a ragged gall stone of such size as might have allowed it to traverse the gall-duct was found in the fæces.

Periodical Paralysis.—Cousot ("Rev. de méd.") has collected nine cases of periodical paralysis, five of which occurred under his own observation. These cases, he remarks, can not come under the head of intermittent paralysis due to paludism. The paralysis comes on suddenly and disappears just as suddenly, forming, as Westphal says, a unique feature of the affection, the pathology of which is unknown. Though Gibney's two cases are included in the *résumé*, the author does not think that they present a true picture of the disease. One of the cases, he thinks, was due to paludism, and the second was attended with fever, and in the third attack with convulsions, and terminated fatally. He therefore excludes these, and analyzes the seven remaining cases observed by himself, Westphal, and Hartwig. Like Westphal, the author found no nervous affection in the family history, nor any rheumatic diathesis. But all his cases were observed in four brothers and sisters, the offspring of a mother similarly affected. Westphal's case, an abstract of which was published in this Journal for June 5, 1886, was a typical one, and may be referred to for the clinical picture of this strange affection. In explanation of those phenomena, the author offers a theory based on arrest of function of the spinal cord. Only one of his patients placed himself under treatment. Large doses of quinine certainly diminished the frequency of the attacks, but this result was not constant. Other remedies, such as strychnine, the bromides, ergotine, etc., were administered without any benefit. Applications of electricity seemed to increase the violence of the attacks. A wish was entertained to try "suggestion," but the patient was not susceptible to hypnotism. Cauterizations and the use of iodide of potassium effected no change.

Typhoid Fever and Measles in a Patient at the same Time.—Wille ("Dtsch. Med.-Ztg.") reports a case of this kind. A child, six years old, in the second week of an attack of typhoid fever, was seized with measles. From this time on the clinical picture of the latter affection predominated. Two days after the exanthem had reached its climax the temperature, which had been very high, fell to normal. During the fourth day of convalescence the temperature went up for one day, probably owing to some error in diet. The latter part of the course of the illness made the impression as if the morbillous poison introduced into the system had had the effect of destroying the typhoid poison previously introduced. It can also be surmised that the human system offers a more favorable soil for the contagium of measles than for that of typhoid fever, inasmuch as the susceptibility to infection by the former is much greater than to that by the latter.

Lesion of the Cervical Sympathetic.—Prölss (*ibid.*) relates the history of the following interesting case: A woman, forty-one years old, had had typhoid fever without any complications twenty years before. After that she noticed that she perspired on the right side of the face only, while the left side of the face and neck remained dry. She observed also that the left axilla and the left palm perspired less than the right; on the right side, with the increase of perspiration there was always a feeling of greater warmth. The patient noticed, at the same time, an impairment of sight, which grew worse, so that after a time there was total loss of vision. From this, however, she recovered with hypermetropia. The left eyeball was found lying deeper within the orbit than the right one, the left upper eyelid hanging lower, and the left pupil of about half the size of the right pupil. The left side of the face, from the forehead down to the angle of the lower jaw, was tender on deep pressure. The author discusses the symptoms brought on by paralysis of the sympathetic nerve. Hyperidrosis is one of the symptoms of this lesion, but occasionally it causes anidrosis. To explain this, the author assumes that there are two forms of sympathetic paralysis, the one, with paralysis of the pupil, involving the vaso-motor and secretory nerves, and attended, as a consequence, with anidrosis; the other, less complete, which, with the other phenomena, is attended with excessive perspiration, in consequence of the secretory nerves remaining intact. Among the trophic changes that were noticed on the affected side was a diminution in the growth of the hair—an observation that has been recorded only once before. The recession of the eyeball is attributed to paralysis of Müller's muscle. In conclusion, the author would look upon the affection of the sympathetic as a direct sequel of the typhoid fever.

Paralysis of the Laryngeal Abductors as a Forerunner of Tabes Dorsalis.—Luc ("France médicale"; "Dtsch. Med.-Ztg.") was consulted by a patient on account of a peculiar rasping noise with inspiration, attended with a certain degree of dyspnœa. These phenomena were always increased during exercise. The patient stated that he had noticed this symptom some months before and that it was gradually growing worse, but that he had never suffered from attacks of suffocation. A laryngoscopic examination showed the vocal bands slightly reddened, and moderately separated in expiration. During inspiration, however, instead of separating, they came closer together, so that only a narrow chink remained. Intra-laryngeal faradization was applied without any results. The author asks the question whether it was a case of contracture of the constrictors or of paralysis of the dilators, and thinks that it was the latter. What was the origin of this? Examination of the chest and neck proved negative. The existence of the affection on both sides argued a central origin. Further inquiries revealed the fact that the patient's uncle was blind and ataxic. The patient stated that he had never had syphilis, nor been addicted to alcoholism. Two years previously he had consulted Ricord for difficulty in urination, and he could discover no mechanical obstruction in the urethra and attributed the difficulty to atony of the bladder. To overcome this the patient had catheterized himself. But for the past six months, however, urination had been normal. Ataxia was not present. The only motor symptoms were occasional contractions of the muscles of the feet. Disturbances of sensibility were manifest by shooting, electric pains on the inner side of the knees. The sense of temperature and the tactile sense were normal, while the sensibility to pain was decidedly diminished in the thighs and feet. The knee jerk on the right side was very much lessened. The sensibility of the palate and pharynx was normal, as also was the sense of sight. Finally, the patient remembered that for the past year he had had only incomplete erections. This symptom, with the foregoing, the author thought warranted the diagnosis of beginning tabes dorsalis.

Perforating Ulcer of the Foot and its Relation to Tabes.—Hinze ("Dtsch. Med.-Ztg.") draws the following conclusions from a study of twenty-one cases of this rather rare affection: 1. Some cases of perforating ulcer of the foot belong to tabes. 2. In every case of perforating ulcer of the foot tabes should be looked for. 3. Ulcers of the sole, as well as of the palm, form a symptom of tabes which appear at one time early and at another time late in the spinal affection. 4. Similar ulcers of the foot obtain in other severe trophic disturbances, such as diabetes mellitus and alcoholism.

A New Symptom in Tabes Dorsalis "Cerebralis."—Erben (*ibid.*) observed in a tabetic patient, aged fifty-one, in addition to symptoms showing that the second branch of the trigeminus was involved, paræsthesia of the sense of taste. This manifested itself by attacks of a painful sweet taste, first experienced in the act of swallowing, then spreading forward over the whole tongue, lasting for hours, and then gradually or suddenly disappearing. It must have been due to a degeneration of the gustatory tract similar to the degeneration of other peripheral nerves, and it is probable there may have been a gray degeneration of the glosso-pharyngeal nucleus. The patient suffered also from paræsthesia of the sense of smell. A similar case has been observed by Althaus.

A Peculiar Case of Diaphragmatic Pleurisy.—Baccelli ("Rif. med."; "Dtsch. Med-Ztg.") relates the following interesting case: A car-driver, who had suffered from malaria, suddenly felt, as he jumped on to his car from the ground, a severe pain in the left hypochondriac region, fell down, and could not rise again. When brought to the clinic he seemed to be suffering from a serious illness; the respirations were weak, superficial, and extremely painful; the pulse was small and frequent, and the temperature was normal. On the second day of the illness the temperature rose, and remained febrile until recovery. Now the pains grew less severe, and a physical examination of the chest showed an effusion of fluid reaching to the angle of the scapula. The effusion soon began to diminish, the fever disappeared on the ninth day, and the patient was discharged cured on the twenty-first day. Baccelli diagnosticated the case as one of diaphragmatic pleurisy. The ætiology seemed clear. The illness set in immediately after great strain of the diaphragm, which is known to cause rupture of the muscle-fibers. In general, rupture of the diaphragm is commoner on the left than on the right side. In this case, as an important determining factor, there was enlargement of the spleen, which would exercise a powerful traction downward. If inflammation does not usually follow muscular rupture, it evidently did in this instance, probably on account of the malarial cachexia. The author quotes a case observed by Nélaton, in which a boy, in consequence of violent exertion, ruptured the psoas muscle, and died of abscesses. It is also known that the escape of menstrual blood into the abdominal cavity may produce peritonitis. The author makes in the foregoing case the following diagnosis: fibrillary rupture of the diaphragm; hæmorrhage; "pleuritis punctata"; and, as a result, common diaphragmatic pleuritis. He is quite certain that the pleurisy was not an infectious one.

Miscellany.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending July 28th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 9th corresponded to an annual rate of 19·6 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Nottingham, viz., 11·4, and the highest in Preston, viz., 32·1 in a thousand. Small-pox caused 2 deaths in Sheffield.

London.—One thousand six hundred and ten deaths were registered during the week ending July 9th, including 77 from measles, 25 from scarlet fever, 11 from diphtheria, 86 from whooping-cough, 1 from typhus, 14 from enteric fever, 133 from diarrhœa and dysentery, and 9 from cholera and choleraic diarrhœa. The deaths from all causes corresponded to an annual rate of 19·9 in a thousand. In greater London, 1,939 deaths were registered, corresponding to an annual rate of 18·7 in a thousand of the population. In the "outer ring" 13 deaths from measles, 14 from diarrhœa, and 6 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending July 9th, in the sixteen principal town districts of Ireland, was 21·3 in a thousand of the population. The lowest rate was recorded in Londonderry, viz., 8·9, and the highest in Galway, viz., 30·3 in a thousand.

Dublin.—One hundred and eighty deaths were registered during the week ending July 2d, including 36 from measles, 5 from whooping-cough, 2 from enteric fever, 1 from diphtheria, and 3 from diarrhœa. Diseases of the respiratory organs caused 30 deaths. Eight accidental deaths were registered, and in seventeen instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 26·6 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 9th corresponded to an annual rate of 18·8 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 16·9, and the highest in Perth, viz., 27·6 in a thousand. The aggregate number of deaths registered from all causes was 469, including 2 from measles, 8 from scarlet fever, 4 from diphtheria, 46 from whooping-cough, and 22 from diarrhœa.

Palermo.—The United States consul, under date of July 6, 1887, states, in confirmation of his telegram of that date, that "two sudden deaths occurred here yesterday from cholera. . . . The first death was that of a fugitive from Catania, at which cholera reappeared some days since, the victim only being ill a few hours, when he succumbed."

Montevideo.—Three hundred and eighty-one deaths were registered during the month of April, 1887, including 52 from diphtheritic croup, 4 from whooping-cough, 13 from small-pox, and 17 from enteric fever.

Kingston, Jamaica.—Ninety deaths were registered during the month of June, 1887, including 1 from enteric fever and 2 from small-pox.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	July 9.	2,260,045	924	..	....	7	....	21	5	29
Warsaw	July 2.	439,174	200	..	....	13	....	....	....	....
Calcutta	June 4.	433,219	161	11	....	....	....	....	..	....
Calcutta	June 11.	433,219	152	10	....	....	....	...	....	....
Amsterdam	July 9.	378,686	157	..	....	2	....	4	1	5
Rome	May 21.	369,214	137	..	....	3	....	5	....	3
Palermo	July 9.	250,000	120	2	....	....	....	3	12	4
Belfast	July 2.	224,422	109	..	....	....	1	2	....	....
Havana	July 14.	208,000	178	..	21	24	....	6	....	....
Havana	July 21.	208,000	210	..	30	23	....	8	....	....
Genoa	July 9.	179,324	98	..	....	1	....	2	1	1
Leipsic	July 9.	170,000	71	..	....	....	....	2	1	4
Trieste	June 25.	150,157	73	..	....	6	....	1	....	1
Trieste	July 2.	150,157	73	..	....	7	....	....	1	1
Stuttgart	July 9.	125,510	40	..	....	....	1	...	....	....
Havre	July 9.	112,074	72	..	....	4	....	8	....	....
Reims	July 9.	97,903	52	..	....	1	....	2	....	....
Leghorn	July 10.	101,172	38	..	....	....	....	1	2	....
Mayence	July 2.	65,701	22	..	...	....	....	....	....	1
Guayaquil	June 24.	35,000	46	..	....	2	....	14	....	....
Guayaquil	June 29.	35,000	35	..	....	7	....	12	....	....
Gibraltar	July 3.	23,631	7	..	....	....	....	1	....	....
Toronto	July 16.	120,000	29	..	....	....	....	...	...	1

UNITED STATES.

Key West—Yellow Fever.—The medical officer in charge of the Marine-Hospital Service (Passed Assistant Surgeon John Guitéras) reports a total of 173 cases and 41 deaths to date.

A Sanitary Convention, under the auspices of the Michigan State Board of Health, will be held in Traverse City, Mich., on Wednesday and Thursday, August 24th and 25th.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for the month of June, the whole number of deaths reported during that month was 7,414, forty per cent. of which were those of children under five years old. In each thousand deaths there were 111 from diarrhœal diseases, 7·25 from typhoid fever, and 64 from diphtheria. The death-rate from zymotic diseases in general is stated to have been decidedly smaller than that of 1885 and 1886.

The American Rhinological Association will hold its fifth annual meeting in Washington on the 1st, 2d, and 3d of September. The programme announces an address by the president, Dr. J. A. Stucky, of Lexington, Ky., and papers by Dr. T. H. Stucky, of Louisville, Dr. N. R. Gordon, of Springfield, Ill., Dr. A. G. Hobbs, of Atlanta, Ga., Dr. F. M. Rumbold, of St. Louis, Dr. A. B. Thrasher, of Cincinnati, Dr. T. F. Rumbold, of St. Louis, Dr. P. W. Logan, of Knoxville, Tenn., Dr. John North, of Keokuk, Iowa, Dr. A. De Vilbiss, of Toledo, O., Dr. C. H. von Klein, of Dayton, O., Dr. H. Jerard, of East Lynne, Mo., Dr. J. G. Carpenter, of Stanford, Ky., Dr. R. S. Knode, of Fort Wayne, Ind., Dr. A. J. Vance, of Harrison, Ark., Dr. W. Castor, of Corsicana, Tex., Dr. J. D. Simpson, of Bloomington, Ind., and Dr. E. L. Siver, of Fort Wayne, Ind.

THERAPEUTICAL NOTES.

Spirit of Ether as a Corrigent of Opium.—Dr. A. G. Auld ("Lancet") remarks that there are few drugs more commonly prescribed than opium, and none more abused or more carelessly combined. None of the official preparations are quite destitute of the disagreeable after-action of the pure drug—that of causing headache, nausea, and loss of appetite—due to its diminishing intestinal secretion. Atropine, while to a certain extent it antagonizes the action of opium on the central nervous system, rather adds to its effect on the alimentary secretions. The author has observed good results from giving opium in conjunction with ether, which, he says, is one of the most powerful stimulants of secretion that we know of. He generally prescribes equal parts of tincture of opium and spirit of ether. [We presume the author refers to the spiritus ætheris of the United States and British Pharmacopœias. Concerning the spiritus ætheris *compositus* (Hoffman's anodyne), the authors of the United States Dispensatory say: "This preparation is on many occasions a useful adjunct to laudanum, to prevent the nausea which is excited by the latter in certain habits."]

Phosphorus in the Treatment of Broncho-pneumonia.—Faria ("Brazil Med."; "Lyon méd.") has made use of phosphorus successfully in the treatment of three children, from six months to six years old, who, in the course of attacks of broncho-pneumonia, were threatened with asphyxia, as shown by coldness of the extremities, cyanosis, and a very frequent and thready pulse. He gave from five to twelve drops of the ethereal tincture of phosphorus in a draught of some cordial preparation. At the same time he used frictions, sinapisms, and inhalations of oxygen. He has not found this treatment successful with old persons.

Biniodide of Mercury as an Antiseptic in Midwifery.—At the recent annual meeting of the Italian Obstetrical and Gynæcological Society ("Rev. gén. de clinique et de thérap."), Professor Mangiagalli stated that the biniodide of mercury was a more active antiseptic than corrosive sublimate, less dangerous, and less injurious to instruments. The strength of the solution required was only 1 to 4,000, iodide of potassium, chloride of potassium, or chloride of sodium being used to increase the solubility of the biniodide.

A Mixture for the Lienteric Diarrhœa of Children.—The "Union médicale" attributes the following formula to J. Simon:

Tincture of cinchona	10 parts;
Tincture of rhubarb, Tincture of calumba, } each	4 "
Tincture of nux vomica	1 part.

From five to ten drops are to be taken before each of the two principal meals, in cold water or in water to which a little wine of cinchona has been added. All the food should be reduced to a pulpy state.

ANSWERS TO CORRESPONDENTS.

No. 17.—Sydenham's laudanum was made by macerating 64 parts of opium, 32 of saffron, and 4 each of cinnamon and cloves in 500 of Malaga wine for fifteen days, with the aid of a gentle heat, expressing, and filtering. It was practically the same as the *vinum opii* of the present United States and British Pharmacopœias, the *vin d'opium composé* of the French Codex, and the *safranhaltige Opiumtinktur* of the German Pharmacopœia.

No. 18.—The idea of making traction on the fœtal head by means of suction is not novel. At a meeting of the Edinburgh Obstetric Society, held December 20, 1848, a communication on the subject was made by Sir James Y. Simpson, and was published in the "Edinburgh Monthly Journal of Medical Science," for February, 1849, under the title of "The Air-tractor as a Substitute for the Forceps in Tedious Labors." Simpson reported a case in which he had used a cylindrical speculum to which an extemporized piston had been fitted.

No. 19.—Such persons are not necessarily impostors. The one you mention was ascertained to be a somnambulist.

No. 20.—A teaspoonful and a fluidrachm are not quite the same; a fluidounce contains eight fluidrachms, but only six teaspoonfuls, assuming the ordinary teaspoon of the present day to be used. Hence, a four-ounce mixture will contain only twenty-four teaspoonful doses, and not thirty-two.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, AUGUST 13, 1887.

Original Communications.

THE INFLUENCE OF THE WOMAN'S HOSPITAL.*

By JAMES B. HUNTER, M. D.,
SURGEON TO THE WOMAN'S HOSPITAL, ETC.

In the year 1855, when the Woman's Hospital was established, gynæcology, as a distinct branch of medicine, was "without form and void." The practice in diseases of women did not differ materially, in this country at least, from the practice of twenty-five years before. Twenty-five years later the difference was very great. The striking advance that took place in that department in this country during that period was due, in great part, to the influence of the Woman's Hospital, and to the teachings of its founder, Dr. Sims, and its chief supporter, Dr. Emmet. Sims planted and Emmet watered. It is true that great changes took place during the same period in the practice of general surgery; but in no department was it so marked, so complete, so radical, as in that pertaining to the diseases of women.

My purpose on the present occasion, knowing the prejudices of my audience, is to call attention, very briefly, to the large share which the Woman's Hospital has had directly in the advancement of gynæcology, and indirectly in the advancement of general surgery. The influence of the Woman's Hospital has been:

1. Through the medium of the men who have been trained within its walls, including surgeons, assistant surgeons, members of the house staff, and those connected with the out-door clinics during the past thirty years. Availing themselves to the full of the ample advantages there afforded, many members of the house staff have continued the work of the hospital in other cities and in other lands. They have been instrumental in founding other woman's hospitals, and wards for the treatment of diseases of women in general hospitals. They have also founded dispensaries for diseases of women, and in various schools and colleges they have given able instruction, didactic and clinical, in the same branch. Between fifty-five and sixty physicians are now living who have enjoyed the teachings of the Woman's Hospital as members of the house staff. Those, more than any other officers connected with the hospital, should represent its best teachings and advocate its best practice. Many of those gentlemen have become specialists, and have attained distinction; many have labored with extraordinary success in the field of general practice, and have there turned to good account their hospital instruction. In the colleges of this city, and in the polyclinic and post-graduate schools, as well as in the dispensaries and clinics devoted to diseases of women, there may be found a very respectable number of those having or having had some connection with the Woman's Hospital. Some details of the work accomplished by former members of the house staff will be given hereafter.

2. Less direct, but very much more wide-spread and general, has been the influence exerted by the Woman's Hospital through the medium of those who have attended its clinics, and witnessed as spectators the operations performed there. Over three thousand physicians and students annually avail themselves of the privilege of visiting the hospital on operating days. Many more would gladly go did not the facilities of the hospital render it necessary to limit the number. Many come from a great distance for this purpose alone, and among the spectators may be found intelligent practitioners from every part of the civilized world. They go home, many of them, carrying with them the ideas, the methods, the instruments, the practical details of the Woman's Hospital. In Europe, in Australia, in China and Japan, in India, the Woman's Hospital has, through this means, been abundantly fruitful. As a single instance, it may be mentioned that one gentleman from Australia, after having visited the principal schools of Europe, established himself in this city for a whole winter for the express purpose of improving his knowledge of gynæcology. He is now practicing in a large city in Australia, turning to the best possible account the information gained in the Woman's Hospital, and having in his possession a complete set of instruments made in this city after the Woman's Hospital pattern. Many others who have had no official connection with the hospital have become earnest students of gynæcology, and for an entire season or more have followed faithfully the operations and, as far as possible, the clinics and the treatment, and have gone home and put in practice, with most gratifying success, the instruction thus acquired. One gentleman from a distance, from whom I had formerly frequent calls to operate on his patients, and whom I urged to come to the city for instruction, followed my advice to such good purpose that now he does all his operations himself, and I am never sent for. I am bound to add that he does them well.

3. The patients of the Woman's Hospital themselves have had much to do with promoting the advancement of knowledge of diseases of women. Many thousands of women are scattered over the country, some from almost every county in almost every State, who have received some substantial benefit, often amounting to the saving of life, very often to the permanent cure of some dangerous or painful malady, during a sojourn in the Woman's Hospital. These women necessarily spread the fame of the hospital, and create a demand for the knowledge by which they have profited. Their influence extends to the profession at large. The country practitioner becomes ambitious to keep abreast of the times, and often feels that he *must* do so in order to keep abreast of his patients. Hence, often, a pilgrimage to the Woman's Hospital, and a profitable sojourn there. Not a few ambitious physicians make a business of spending a few weeks in this city every winter, having as the chief incentive the opportunity of visiting the Woman's Hospital. Some weight must be given also to the influence of the many nurses who have passed through the Woman's Hospital, some dwelling there for a very short period, and a few for a long period. The more intelligent among them

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* Read before the Alumni Association of the Woman's Hospital at its third meeting.

have carried the methods of nursing peculiar to the Woman's Hospital into private practice, and into the practice of other hospitals.

First among the hospitals which may be considered as offshoots or outgrowths of the Woman's Hospital I shall mention that established by Dr. W. H. Baker in Boston. It was small at first, but modeled, as nearly as possible, after the Woman's Hospital in everything except its government. It was originally a single private house, but now a second house has been added, and the accommodation consists of from thirty to thirty-five beds. These beds are all free, being endowed by private individuals or by different churches. The influence of that hospital has been felt, not only by the Harvard Medical School, but by the profession at large in Boston. It is known as the Free Hospital for Women. According to the "Eleventh Annual Report" of that hospital (1885–'86), one hundred and twenty-eight patients had been admitted to the hospital during the year, and in the out-patient department seven thousand and seventy-six had been afforded treatment. Dr. Baker, when he first settled in Boston, after leaving the Woman's Hospital, established a clinic for diseases of women at the Boston Dispensary, which has grown and prospered. Before dismissing Dr. Baker, it should be mentioned that he has for several years held the chair of lecturer on gynæcology in the Harvard Medical School.

The California Woman's Hospital is, in some sense, an outgrowth of the Woman's Hospital of this city. Dr. John Scott, when he came to this city in 1867, a pilgrim from Calcutta, India, was advised and encouraged by Dr. Emmet, and inspired by what he saw done here, to attempt the establishment of a hospital on the Pacific coast. I remember well how eagerly and keenly Dr. Scott scrutinized every detail of the operations and the treatment at the Woman's Hospital during the few weeks he could afford to qualify himself for the undertaking. The California Woman's Hospital was organized in 1868 and incorporated in 1873. It had at first thirty beds, but has now double that number. Two graduates of the Woman's Hospital have had some connection with it. Dr. W. S. Whitwell for some time occupied the position of assistant surgeon, and Dr. A. P. Dudley for one year the position of house physician. The California Woman's Hospital deserves to be honorably remembered by this association from the fact that the house surgeon is paid a salary of fifty dollars a month. Dr. Whitwell has now a private hospital of his own. It is not exclusively for diseases of women, but admits "medical and surgical and obstetrical patients." He deserves the credit, I believe, of having introduced the use of hot water for hæmorrhage in Germany.

In St. Louis, Mo., the late Dr. W. L. Barrett, who served in the Woman's Hospital in 1867 and 1868, had charge given him of a gynæcological ward in a general hospital, and for many years did a special practice in that city. Not long before his death he was appointed lecturer on gynæcology in one of the St. Louis medical schools.

In Hartford, Conn., Dr. P. H. Ingalls holds the position of gynæcologist to the Hartford Hospital, and according to the third annual report of that hospital there were treated during the year ending September 30, 1886, thirty-four uterine cases.

In Baltimore, Md., the Woman's Hospital was opened in April, 1882, with a capacity of seventeen beds. In November, 1886, it was moved into a new building, having a capacity of thirty beds. The hospital is modeled very closely after the Woman's Hospital of this city. One graduate of the Woman's Hospital, Dr. C. W. Riley, holds the position of assistant surgeon to the Baltimore hospital.

In Providence, R. I., Dr. G. W. Porter, after leaving the Woman's Hospital, engaged in general practice. After some years he was appointed gynæcologist to the Providence Dispensary, which position he held for some time. In 1872 the department of gynæcology was established in the Rhode Island Hospital, and Dr. Porter was appointed surgeon to that department, of which he has entire control. His service consists of twelve beds, in which about sixty patients are treated every year. He has also an out-patient department connected with the same ward, in which one thousand two hundred and thirty-seven patients were treated last year. He has also a cottage for abdominal operations. Dr. Porter now gives his attention exclusively to gynæcology.

In Washington, D. C., Dr. George Woodruff Johnston is the sole representative of the Woman's Hospital, of which he writes: "On gynæcology, here as elsewhere, the Woman's Hospital has produced, through the medium of the writings of those connected with it, and the occasional visits of physicians from this city to its operating-rooms, a most decided and wide-spread impression." Dr. Johnston is lecturer on operative gynæcology in the National Medical College, and is also chief of the clinic for diseases of women in the Central Dispensary and Emergency Hospital.

In Jersey City, N. J., the late Dr. John Van Vorst, Jr., had established a successful gynæcological practice, and had performed many operations.

In Chicago, Dr. E. C. Dudley has been for many years a successful practitioner of gynæcology, and has done a large number of operations. He holds the position of gynæcologist to St. Luke's Hospital, the Cook County Hospital, and the Mercy Hospital; is also professor of gynæcology in the Chicago Medical College, and delivers lectures on gynæcology in Mercy and St. Luke's Hospitals.

In this city (New York), the ex-members of the house staff of the Woman's Hospital are represented by two surgeons to that institution, six assistant surgeons, a pathologist and registrar, and an electro-therapeutist.

In Bellevue Hospital an alumnus of the Woman's Hospital has for several years conducted successfully a gynæcological department, and has performed a large number of operations of all kinds.

It would be personal, perhaps, to speak more particularly of those who are so near home, or to say much of the many instruments and appliances invented by graduates of the Woman's Hospital. Suffice it to say that neither the speculum nor the pessary has entirely escaped their attention. It may be permissible, however, as a means of avoiding a discussion on priority in future ages, to place on record the fact that the use of the rubber coil in peritonitis after ovariotomy was first suggested by Dr. A. B. Townshend, when he was house surgeon in 1881, and that he himself manufactured the first coil, which was used by Dr. Emmet on one of his patients in 1882.

Speaking to this association, I am not afraid of being criticised if I dwell for a few moments on the substantial advantages enjoyed by the members of the house staff of the Woman's Hospital during their pupilage. I use the word "enjoyed" with a full knowledge that the experience in question was not always joyous in the getting; but I believe those gentlemen learn some things not always learned by the graduates of other hospitals. I will not say that they learn to give ether better; but I will say that we have had many graduates of other hospitals who certainly gave it better when they left our hospital than when they entered it. As the influence of the Woman's Hospital is exerted very largely through its graduates, I must not omit to say a word of the advantages which accrue to those who do not become specialists, and who, strange as it may appear, never expect to. The graduate of the Woman's Hospital has an advantage over his fellow-practitioners in many particulars which he does not discover until after he has engaged in general practice. This is especially true as regards many obstetric manipulations. The man who has acquired a thorough familiarity with the methods and instruments of the Woman's Hospital will find that he has the key to many of the mysteries of obstetrics, and he may even be inclined to regard obstetrics as a branch of gynæcology. In all uterine manipulations, in the arrest of hæmorrhage, in the removal of débris from the cavity of the uterus, in the use of the tampon, in the management of the bladder and rectum, and in the appreciation of any lesions which may occur, he will often find himself unexpectedly "at home." He will find, in other words, that there is a far wider range than he supposed for the skill and knowledge he has acquired.

In conclusion, I think it may be fairly asserted that the Woman's Hospital has exercised a widespread influence, and that its influence has been for good. At first unique in its character and purpose, it has impressed its principles on the profession and on other hospitals to such an extent that it has no longer a monopoly of any particular class of diseases. It has established gynæcology on a sure and firm basis, and rendered it popular, simple, and accessible to all. It has abolished the old heroic methods of treatment, and furnished something better in their place. Above all, it has enlarged the domain of surgery in diseases of women, and defined its proper limits. It has taught the profession not only what to do, but what not to do. It has also borne a large and honorable part in the development of abdominal surgery. In short, whatever may be the future of the Woman's Hospital, it has already a long and glorious record, of which every one of its graduates may be justly proud.

The Poisonous Action of Furfurol.—At a recent meeting of the Paris *Société de biologie* ("Progr. méd.") M. Magnan said that he had experimented on various kinds of animals with this aldehyde, and had found that intra-venous injections produced convulsions closely resembling those of true epilepsy or the epilepsy of absinthism. This fact, he thought, would explain the convulsive attacks met with in Scotch peasants who took forms of spirit containing furfurol.

FURTHER RESEARCHES UPON THE PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE.*

From the Biological Laboratory of the Johns Hopkins University.

By FRANK DONALDSON, Jr., B. A., M. D., Baltimore,
SOMETIME SCHOLAR IN BIOLOGY IN THE SAME; FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, ETC.

(*Concluded from page 148.*)

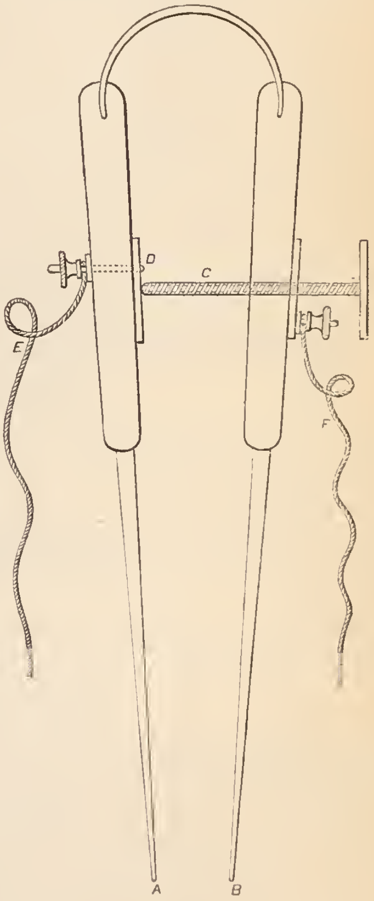
To pass, now, to my present series of experiments, which prove:

1. That an *abduction* of the vocal bands, a *dilatation* of the glottis, can be obtained WITHOUT ether.

2. That it is a physiological fact that the opening or closing of the glottis depends upon the *strength* of the stimulus.

3. That we have confirmed every statement made in my original paper.

My method of operating was somewhat changed from last year, as follows: The larynx was exposed and the recurrents were dissected out. The trachea was separated from the larynx by cutting through it just below the cricoid. This cartilage was then divided in the center and part of it cut away, thus giving a clear view of the movements of the cords. A Du Bois-Reymond induction coil, with a Daniell's cell, supplied the stimulus. It was very desirable to obtain a *tracing* of the movements of the cords, and this was done in the following way: The little instrument pictured here was placed between the posterior end of the cords so that the two ends, A and B, rested against the right and left cords close to the arytenoids. Now, the wires, E and F, were connected, one with the battery, the other with a pen which wrote on a revolving drum. A third wire, of course, connected the other pole of the battery with the pen, and completed the circuit. Now, in order to make the circuit, the point C had to touch the arm D of the instrument, and this could only happen when the ends A and B were brought together, and they could only be brought together by an *adduction* of the cords—a closure of the glottis. When the glottis was open, or when there was a further *abduction* on stimulation, the pen did not move from the base-



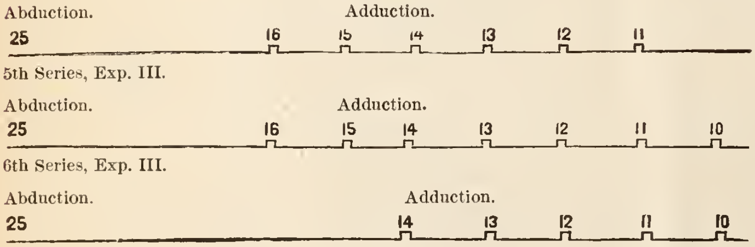
line; if, however, there was an adduction, the current was made and the pen rose. The tracings obtained in this way are given in Plates I and II for Experiments III and IV. It will be remarked that in these experiments *adduction* only is recorded. In order, therefore, to obtain a tracing of *abduction*, I changed the instrument given above, so that when the ends A and B rested against the cords, the point C touched D, and made the current, and the pen wrote above the base-line. If, now, any stimulus produced *abduction*, the ends A and B separated, the current was broken, and the pen fell from the base-line. The tracing of abduction thus obtained is shown in Plate III, Experiment IX.

The experiments given below and marked from one to fourteen were not made in that order, and are taken from a large number. In Experiments I, II, III, IV, V, VIII, IX, and XII, morphine *only* was used, in VI and VII ether, and in Experiments X, XI, XIII, and XIV *no drug*, the medulla having been destroyed.

As will be seen, the observations are arranged in three columns. The first gives the strength of the stimulus, the second the result, and the third the person or persons observing, with remarks. The different experiments were seen and the *results* of any given stimulation *observed* by Professor H. N. Martin, Professor W. H. Welch, Dr. W. H. Howell, the assistant professor of physiology; by Dr. Campbell, Fellow in Biology; Dr. W. P. Lombard, Dr. Beyer, Professor Donaldson, Dr. J. Solis-Cohen, of Philadelphia, Dr. John N. Mackenzie, Professor Sewall, of the University of Michigan, Dr. J. H. Hartman, Professor Reichert, Dr. Kemp, and many others.

The tracings shown in the plates are to be read thus: In Plate I, for instance, to take the lowest tracing marked 7th series, it means that the coil was started at 25, and at each stimulation up to 14 the result was called out by the person observing as consequent *abduction*, and hence the pen did not leave the base-line. At 14, however, the stimulus was sufficiently strong to produce *adduction*, as is shown by the rise of the pen and the marking on the drum, and adduction followed stimulation at 14, 13, 12, 11, and 10.

PLATE I.—Exp. III.

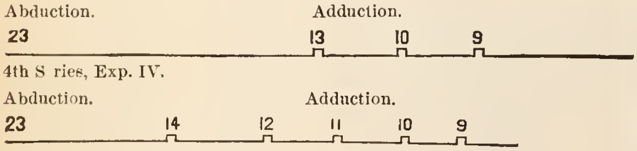


5th Series, Exp. III.

6th Series, Exp. III.

7th Series, Exp. III.

PLATE II.—Exp. IV.

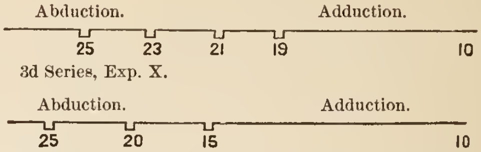


4th Series, Exp. IV.

6th Series, Exp. IV.

In Plate III, on the other hand, the connection being made, the pen wrote above the base-line. Now, this connection could only be broken by an abduction of the vocal bands, and this took place, as can be seen from tracings (3d series, Exp. X), at 25, 23, 22, and 19, after which the various stimuli applied produced adduction; the connection was not broken and the pen did not leave its line.

PLATE III.—Exp. X.



3d Series, Exp. X.

5th Series, Exp. X.

Note.—Dr. Lombard kindly offered to photograph the abduction and adduction for me, but we were unable to carry it out. These tracings are a few taken for convenience from a large number.

EXPERIMENT I.

Coil at	Result.	Remarks.
1st Series.		
25.......	Abduction.	1½ gramme morphine; right recurrent stimulated; both cut.
23.......	"	
20.......	"	
15.......	"	
12.......	"	
10.......	Adduction.	
5.......	"	
2d Series.		
5.......	Adduction.	It was noticed that abduction was produced on slight stimulation; strong contact caused adduction.
10.......	"	
12.......	Abduction.	
3d Series.		
15.......	Abduction.	Professor Martin and Dr. Howell present.
14.......	"	
12.......	"	
10.......	Adduction.	
5.......	"	
4th Series.		
8.......	Abduction.	The stimulation was changed to a single shock, on the *break* only, and both nerves placed upon the electrode. *Abductor* fibers becoming exhausted, experiment stopped at 3.15.
5.......	Adduction.	
3.......	"	
0.......	"	

Series repeated over and over again without variation.

EXPERIMENT II.

Coil at	Result.	Remarks.
1st Series.		
10.......	Adduction.	Medium-sized dog; 1½ gramme of morphine; right recurrent cut.
7.......		
6.......		
5.......		
0.......		
2d Series.		
37 to 30..	Abduction.	
29.......	Adduction.	
25......	"	
20.......	"	
3d Series.		
40 to 34..	Abduction.	At 35, adduction of anterior part of cord noticed, which continued.
30.......	Adduction.	
25.......	"	
20.......	"	
4th Series.		
34	Abduction.	Strength of battery (Daniell's cell) constantly changing.
30.......	"	
26 to 25..	Adduction.	

EXPERIMENT III.

1st Series.		
22 to 11..	Abduction.	Large dog; two grammes of morphine; right recurrent cut and stimulated; the abduction was very marked; crico-thyreoid cut and thyreoid cartilage slit.
10.......	Adduction.	
8.......	"	
5.....	"	

Coil at	Result.	Remarks.
2d Series.		
22 to 14..	Abduction.	This series observed by Dr. Beyer and Dr. Campbell, who called out result.
13.......	Mixed.	
12.......	Adduction.	
10.......	"	
8.......	"	
3d Series.		
10.......	Adduction.	Observed by Dr. Beyer and Dr. Campbell.
11.......	"	
12.......	Mixed.	
14......	Abduction.	
16.......	"	
18.......	"	
20.......	"	
4th Series.		
15 to 11..	Abduction.	
10.......	Adduction.	
9.......	"	
8.......	"	
5th Series.		
25 to 17..	Abduction.	Dog killed so as to stop all possible movement.
16 to 10..	Adduction.	Instrument placed between vocal cords and connected with pen and tambour, and tracing obtained as in Plate III, 5th series.
6th Series.		
25 to 17..	Abduction.	Observed by Dr. Fiske; tracing No. 6.
16 to 9..	Adduction.	
7th Series.		
25 to 15..	Abduction.	Observed by Dr. Fiske; tracing No. 7.
14 to 9..	Adduction.	
8th Series.		
23 to 13..	Abduction.	Observed by Professor Martin; tracing No. 8; nerve and muscles losing their irritability; experiment stopped.
12 to 7..	Adduction.	

EXPERIMENT IV.

Coil at	Result.	Remarks.
1st Series.		
18 to 11..	Abduction.	Dog; 1½ gramme of morphine; crico-thyreoid cut; Dr. Lombard observed all series, Professor Martin several.
10.......	Adduction.	
8.......	"	
2d Series.		
18 to 14..	Abduction.	Both recurrents *stimulated.*
13... ...	Mixed.	
12.......	Adduction.	
10.......	"	
3d Series.		
24 to 12..	Abduction.	Both recurrents stimulated.
11.......	Adduction.	
4th Series.		
23 to 15..	Abduction.	See tracing, Plate II; dog perfectly quiet.
13.......	Adduction.	
10.......	"	
5th Series.		
20 to 15..	Abduction.	
14 to 10..	Adduction.	
6th Series.		
25 to 15..	Abduction.	See tracing, Plate II.
14.......	Adduction.	

EXPERIMENT V.

Coil at	Result.	Remarks.
1st Series.		
30 to 10..	Abduction.	Dog; 2 grammes of morphine; the first four series were observed, and the result called out by Professor W. H. Welch, Professor of Pathology.
9.......	Adduction.	
8......	"	
5.......	"	
2d Series.		
25 to 12..	Abduction.	Both recurrents cut; both stimulated.
11.......	Adduction.	
10.......	"	
9.......	"	
3d Series.		
5.......	Adduction.	Both stimulated.
9.......	"	
10.......	"	
11.......	"	
12 to 30..	Abduction.	
4th Series.		
30 to 14..	Abduction.	Both recurrents stimulated.
12.......	Adduction.	
10.......		
9.......		
5th Series.		
28 to 12..	Abduction.	Dog killed. This and the following series observed by Professor Donaldson.
11.......	"	
10......	Adduction.	
9.......		
5.......		
6th Series.		
	Same as last	

After a while the abductors lost their irritability, and adduction only resulted, which confirms my statement to this effect made last year.

EXPERIMENT VI.

Coil at	Result.	Remarks.
1st Series.		
30.......	Abduction.	Dog; 2½ grammes of morphine; then very deeply under ether; crico-thyreoid muscle and both recurrents cut; the battery was strong; *abduction* lasted much longer than without ether.
25... ..	"	
22.......	"	
20.......	"	
16.......	Mixed.	
12.......	"	
10.......	Adduction.	
2d Series.		
30.......	Abduction.	
26.......	"	
24.......	"	
22.......	"	
20.......	"	
18.......	"	
15.......	"	On slight contact a strong abduction.
10.......	Adduction.	
3d Series.		
30.......	Abduction.	Dr. Beyer observed the cords and called out the result of each stimulus.
28.......	"	
26.......	"	
24......	"	
22.......	"	Less distinct.
20.......	"	
15.......	Adduction.	
4th Series.		
30.......	Abduction.	Dr. Beyer observed results.
28.......	"	
26.......	"	
24.......	"	
22.......	"	
20.......	"	On slight contact.
18.......	"	" " "
15.......	Adduction.	

Ether certainly has a peripheral effect. It prolongs the abduction, and makes it more apparent.

EXPERIMENT VII.

Coil at	Result.	Remarks.
1st Series.		
40 to 18..	Abduction.	Dog under two grammes of morphine; both recurrents cut.
18.......	Mixed.	
17.......	Adduction.	
2d Series.		
35 to 18..	Abduction.	Right recurrent stimulated.
17.......	Adduction.	
3d Series.		
35 to 18..	Abduction.	Right recurrent.
17.......	Adduction.	

A large number of series were made without the slightest variation from the three given above. The nerves gradually became exhausted, and finally only very slight *abduction* could be produced, adduction generally resulting. The more irritable abductors had become worn out.

It suggested itself to me that I could have no better case in which to show the *prolonging* effect of ether, for the abductors would not respond. Ether was therefore administered. I should state that this experiment and the next were observed by Dr. J. Solis-Cohen, who kindly came from Philadelphia, by Dr. John N. Mackenzie, and by Dr. Henry Sewall, Professor of Physiology in the University of Michigan.

When, therefore, the narcosis was pronounced by the three gentlemen present to be complete, the nerve was stimulated with the following result, and it will be seen that *abduction* distinct and prolonged was obtained.

Experiment VII—(*Continued*).

Coil at	Result.	Remarks.
1st Series.		
35 to 12. .	Abduction.	Right recurrent pronounced.
10.	Adduction.	
8.		
5.		
2d Series.		
30 to 16. .	Abduction.	Both recurrents.
15.	Adduction.	
10.	"	
8.	"	

Series repeated over and over again, with same result.

Experiment VIII.

Coil at	Result.	Remarks.
1st Series.		
35 to 18. .	Abduction very marked	Dog; under two grammes of morphine.
17.	Adduction.	Cords very wide apart; both recurrents cut.
2d Series.		
30 to 18. .	Abduction very marked	Dr. Cohen, Dr. Mackenzie, Dr. Sewall, and Dr. Donaldson, Sr., present.
17.	Adduction.	

Many series were done with the same results, the abductors finally failing to respond to stimulus.

Experiment IX.

Coil at	Result.	Remarks.
1st Series.		
36 to 18. .	Abduction very marked	Dog; two grammes of morphine; both recurrents cut.
14.	Mixed.	
15.	Adduction.	
2d Series.		
30 to 18. .	Abduction.	
17.	Adduction.	
3d Series.		
35 to 20. .	Abduction.	Both recurrents stimulated; Dr. Sewall present.
20.	Mixed.	
18.	"	
15.	Adduction.	
4th Series.		
35 to 10. .	. . . .	Dog *profoundly* narcotized *with ether*; abduction greatly prolonged, and adduction finally done away with.
10.		

Many series made without variation.

Experiment X.

Coil at	Result.	Remarks.
1st Series.		
25 to 19. .	Abduction.	Dog; medulla destroyed; no drug;* operation quickly performed.
	Mixed.	
17.	Adduction.	
14.	"	
5th Series.		* Professor Bowditch had written to Professor Martin to ask if he had *ever* seen an *abduction* produced without *any drug*.
25 to 15. .	Abduction.	
14.	Adduction.	

Series repeated again and again without variation; *abductor* fibers became sooner exhausted.

Experiment XI.

Coil at	Result.	Remarks.
1st Series.		
28 to 18. .	Abduction.	*No drug* given; medulla destroyed; result of any given stimulus observed by Professor Martin and Dr. J. H. Hartman.
18.	Adduction.	
17.	"	
12.	"	
10.	"	

Series repeated again and again without variation.

It was remarked by all present that the abductor muscles died most rapidly.

Experiment XII.—This and the following experiments were made at the University of Pennsylvania in the presence of Dr. Reichert, Professor of Physiology, Dr. J. Solis-Cohen, Dr. Dalton Hays, of New York, Dr. J. H. Musser, Dr. Kemp, Assistant in Physiology, Dr. Hare, Dr. Joseph Head, Dr. Theodore Martin, and Professor H. N. Martin, who kindly came from Baltimore to see the demonstration.

The dog was given two grammes of morphine. A very large number of series were made. *Abduction* distinct and prolonged was produced by *weak stimuli*, in some cases lasting *ten* and *twenty seconds*.

Adduction by strong stimuli always.

Experiment XIII.—In order to show that the results obtained in Experiment XII were in no way dependent upon any effect of the drug, the dog's medulla was destroyed.

Observations were made and continued until all the gentlemen expressed their entire satisfaction. In one instance in the experiment, abduction continued for as long as gentle stimulus was kept on, some *twenty-five* seconds.

Experiment XIV.—Performed with Professor Martin. No variation from former experiment. In one case, abduction lasted nearly two minutes, under a weak stimulus.

Proceeding to an analysis of these experiments, we find:

1. That an *abduction* of the vocal cords *can* be obtained *without ether*. This fact is abundantly proved, for in *every series* of Experiments I, II, III, IV, V, VIII, IX, X, XI, XII, XIII, and XIV an abduction was obtained and seen by the observers quoted, and in *no case* was *any ether* whatsoever administered, and in Experiments X, XI, XIII, and XIV *no drug* at *all*, and abduction was produced for as long a time as desired.

2. That *abduction* followed *weaker*, *adduction stronger*, stimuli. This was an important point I made last year, and the present series of experiments confirm the statement, for, as will be seen, there was *no variation* in any case; gentle stimulation invariably produced *abduction*—strong, *adduction*.

3. That there is no variation whatever in the results.

Again, it was noticed that at a certain strength of stimulus slight contact produced a temporary abduction, strong contact, however, causing an adduction. In several cases where the nerve was stimulated *after death*, *abduction* gradually disappeared, giving place to adduction, which confirms the statement I made last year to that effect, *that the more irritable abductors die first*. This fact was brought out very strikingly in one experiment.

I was giving a demonstration before the Clinical Society of Baltimore, and, in order to have as little blood as possible, had tied both carotids. It was from an hour and a half to two hours before I proceeded to stimulate, and when I did so, *no abduction* at all could be *obtained*, a weak adduction alone appearing. I know of no better way of demonstrating the greater irritability of the abductor muscles, which causes them to become so quickly exhausted.

This new and important fact that there is a difference in the irritability of the laryngeal muscles and nerve-fibers we may now, I think, consider as settled.

There are three important questions suggested by the above experiments, viz.:

1. The comparative irritability of muscles.
2. The ether effect.
3. The "proclivity" of the abductor muscles to disease.

On the Relative Irritability of Muscles.—The greater importance of certain muscles or groups of muscles in the body is well known, and it is not *a priori* unreasonable to suppose that such muscles should be more sensitive, more irritable, should respond to the gentlest stimulus, and so more rapidly perform their duty when called upon, than the less important and therefore less sensitive muscles. On the contrary, it is just what we might expect, as in the case of the more irritable *abductors* of the larynx. These are infinitely more important than the adductors.

The respiratory function of the larynx can not be suspended without danger to life, its phonatory function bears no such relation to the life of the individual, and the closure of the glottis is fortunately not entirely dependent upon those muscles which bring the vocal bands together. We find the muscles which open the glottis, therefore, far more irritable, responding always to the slightest stimulus.

Observations similar to my own have been made by Dr. Bowditch (*loc. cit.*) on the flexor and extensor muscles of the frog's leg, which are likened by him respectively to the abductor and adductor muscles of the larynx, and there certainly seems to be a remarkable similarity in their actions under weak and strong stimuli "without ether," says Dr. Bowditch; "flexion (and adduction of the toes) are only to be obtained with very feeble currents." And again "the important observation was also made that whenever flexion was obtained it could be converted into extension by *increasing* the *intensity of the current*," which agrees with my own results.

The great importance of the abductor muscles is sufficient to explain their great irritability, but it was not so easy to say why the flexor muscles should respond to a less stimulus than the extensors. We are unable at the present time to say whether the difference in irritability lies in the muscle or nerve-fibers.

The Ether Effect.—Dr. Bowditch speaks of my failure to obtain the ether effect. As I said in the beginning of this article, there was no mention of the ether effect in Dr. Hooper's paper nor in my own. I neither affirmed nor denied it. I said we did not *always* obtain abduction under ether for *all* strengths of stimuli. There is no doubt of the fact that ether greatly *prolongs* abduction in all cases, while in some it does away with adduction entirely, *abduction* only resulting from *all* strengths of stimuli.

The extent of its effect I have found to vary in different dogs. This, however, in passing and to correct a misapprehension. The subject is thoroughly discussed in Semon and Horsley's and in Bowditch's papers, and needs no further discussion here.

The so-called Proclivity of the Abductor Fibers to Disease.—I desire to add a few words on the much-vexed question upon which I have had reason to materially change my views since last year. In a paper, "Paralysis of the Lateral Adductor Muscle, with Unique Case," * I said:

> "I desire here to define my own position in the matter, and to offer an explanation of the phenomena of this so-called abductor paralysis. In a paper read before the American Laryngological Association in 1886, I stated that my experiments gave no confirmation of Semon's assertion. On further consideration, I find this statement too broad. Whereas I was at first inclined to deny Semon's statement (on scientific grounds), I now go almost as far as he does—*i. e.*, I am fully convinced that *the abductor fibers are much more irritable and have much less power of resistance than the adductor fibers, and that they die sooner;* though I can not say that I have as yet any experimental (histological) proof that they degenerate more rapidly, after chemical, mechanical, or electrical stimulation, than the adductor fibers."

Both of these facts are abundantly proved by this present series of experiments, and I am now forced to agree with Semon that those cases where the vocal band is found fixed in phonatory position are true paralysis of the *abductor* muscle, and not spasm of the *adductor* muscles. Moreover, the constant implication of the abductor muscle may be explained on the ground of the greater irritability of the abductor muscle or nerve-fibers. *For in cases of unilateral or bilateral lesion of the cords from an aneurysm or tumor the constant pressure exerted by either upon the nerve acts as a mechanical stimulus to it, and the more irritable abductors are, therefore, the first to show the result of this constant stimulation in their loss of function.*

Another factor in the fixation of the vocal band in the phonatory position in the majority of cases (as shown by Dr. Gowers) may be the mechanical advantage at which the chief adductor acts, as compared with the chief abductor, which gives greater power to the former, since it passes nearly at right angles (while the abductor passes at a very acute angle) to their identical insertion into the muscular process at the outer angle at the base of the arytenoid cartilage. Any loss of power would, therefore, affect the abductor muscle most. It is but right, then, to confess that my experiments tend to confirm Semon's conclusion.

Finally, we hold that this series of experiments conclusively proves that it is a physiological fact that abduction can be obtained and is produced by feeble stimuli.

Note.—In the paper read by Dr. Hooper at the meeting of the association in May last, he devotes much space to the *peripheral* effect of *ether*, but again not a word does he say of the *rôle* that he, in his first paper, declared *consciousness* to play in the innervation of the larynx. In the discussion, however, he said: "When I used the word *consciousness* I meant the *ether-effect*"—*i. e.*, peripheral effect. This extraordinary statement needs no comment. It will be noticed, too, that Dr. Hooper says he could not obtain (satisfactorily) our results. This, I hold, is a purely negative argument, and proves nothing.

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* "New York Medical Journal," February 12, 1887

THE PROGNOSIS OF ACUTE LOBAR PNEUMONIA.

By W. D. SCHUYLER, M. D.

(*Concluded from page 73.*)

We have seen that acute lobar pneumonia, occurring in infancy and childhood, in patients otherwise robust, and where no complication is present, *is not a dangerous malady.* We have seen, also, that a pneumonia occurring between the ages of fifteen and forty, uncomplicated, the patient having a fairly good constitution, has an intrinsic tendency to recovery, and that the exceptions to this are exceedingly infrequent. Furthermore, we have seen that, while a favorable prognosis is justified upon these grounds, or in all uncomplicated, moderately sthenic cases in the ages mentioned, *on the contrary*, an *unfavorable prognosis* is to be anticipated *in all complicated cases.* Moreover, we have seen *that the most evident cause of death* in all fatally *complicated cases* is asthenia, a variously developed (according to the action of each complication) functional (organic) asthenia, and resulting insufficiency, particularly of the heart or lungs, or both, or of the general organism, but mainly of the vaso-motor nerves.

Hence, having shown that *organic asthenia, and resulting functional insufficiency* of some organ or organs, *is the cause of death* when it results from acute pneumonia in infantile life and in early adult life, *as also in subjects of all ages, so far as we have examined, and in complicated cases,* and, on the contrary, that *it is the exception when death results in sthenic and uncomplicated cases*, therefore I hold it follows, as a fair inference and deduction, that it is not age in itslf and essentially, *but the sthenic condition* (strength or debility) *of the patient, irrespective of age*, that determines the result.

Although we might conclude from the various statements previously quoted—from Aitken, Niemeyer, Jürgensen, Loomis, and others—that imply a steadily growing increase of fatality from pneumonia with advancing age—*i. e.*, an increasing ratio of fatality in succeeding decades of life—that such unfavorable results were a consequence, simply and essentially, of increasing age; yet such a conclusion, I hold, would be erroneous, for I maintain, on the contrary, that I have shown by the foregoing *that it is the increasing debility natural to age*, which, as a rule, *but not always*, keeps pace *pari passu* with advancing age, *that constitutes the element of danger*, and that must be held accountable for the increasing fatality met with in advancing life.

On these grounds I hold that the very bad prognosis attaching to the *third* and remaining age-class, in the very aged, in whom mortality varies—as set forth in the different statistics offered—from 50 to 100 per cent. of the cases, is to be explained in the same way, *by the increasing debility inherent to the age of these subjects.*

This opinion, which is the only one that can be sustained, agrees with my clinical experience with the malady as I have witnessed it in patients of advanced age and, in some cases, of extreme age, in whom it has occurred that the course has been as favorable and its convalescence every way as rapid—where the apparent vital tone has been equal, and it may be equal in individual subjects—in the aged as in the young adult; and it is also in accordance with a rational inference from the qualified statements of various authors who have written upon the subject of the prognosis of pneumonia with reference to age, who make special reference to probable unfavorable results when there is existing debility, or where there are complications, but not otherwise.

Furthermore, that it is debility, age-debility, simply, and not essentially an advance of years in the aged, that is the dangerous factor in the prognosis of pneumonia; or, in other words, that increased age means or implies merely increased debility in this connection, is put forth by Jürgensen, who, speaking of prognosis as regards age *versus* vigor (*l. c.*, p. 139), says: "It is impossible to compare age classifications of a manufacturing population with those of the laboring classes of a north German seaport town, or with those of a strictly rural district. . . . The porters of Kiel, for example, are old by the time they are thirty, while our peasants in many parts of the country are still hearty fellows at fifty." And he further says: "*I insist strongly upon this point, because I wish to protest against the idea that there is necessarily an increased fatality after a certain limit of age has been reached*" (Italics mine). And, as an additional support to the theory that it is debility rather than age that determines the resulting fatality, he gives statistical details illustrating the point, and says: "In Greifswald the fatal time of life is ten years later than in Basle."

Having determined, therefore, that debility, in varying degrees, is the complicating factor in respect to age in the prognosis of this disease, not only are the therapeutical indications thereby rendered simple, but the hope that treatment may prove successful, by an early and timely resort to tonics and support, is developed.

Sex.—Pneumonia is about one third more fatal in females than in males. This statement is generally supported by Aitken, who says: "Sex is an important element in the prognosis of pneumonia, it being one third to one half more mortal in females than in males." By Jürgensen, who says: "Pneumonia is, *cæteris paribus*, a more dangerous affection in the female than in the male sex, in about the ratio of three to two." And, among others, by Wilson Fox, who says: "Pneumonia is a more fatal disease to females than to males"; and he quotes Huss, who gives the relative mortality as males 10 per cent., females 14 per cent., and says: "Females are more liable to double pneumonia than males, and the disease in females appears to be more protracted." How is this well-attested fact of a greater mortality in females than in males to be accounted for? Considering it in an extended sense, as the evidence would seem to warrant, there can be but one rational explanation of it, and that must rest upon some broad ground of physical difference in the sexes.

The only adequate ground of physical difference that can be predicated to account for the greater mortality occurring in females is not one which makes the female more prone to an attack of the disease than the male, as women, according to Jürgensen and others, are attacked by pneumonia somewhat less frequently than men; it is not a morbid difference which predisposes to a greater violence of the symptoms in the female, as there is no evidence that a greater violence or a greater morbid force is developed in her—on the contrary, in her the symptoms are less sthenic than in the male; and, lastly, it is not a physical or constitutional difference that favors the development in the female of those conditions which are held to govern a less favorable prognosis of the affection—namely, the female is not more liable to an apex development, she is not subject to a more dangerous febrile manifestation, she is not liable to worse consequences arising from age, she is not more prone to the occurrence of complications. In all these particulars the expression of the disease is not more marked in the female than in the male. The difference, then, can not consist of a pathological demonstration in favor of the male; or, in other words, it can not be a characteristic of the disease, but it must be some characteristic of the individual, and relate to a constitutional or an organic difference. The only constitutional difference in the sexes adequate to account for the marked difference in mortality in the female over the male can be no other than that of strength or capacity for endurance. The greater delicacy of the female is acknowledged by all. Her comparative inactivity, her less general physical training, her lighter vocation, and her indoor life, do not tend to cultivate in her an enduring physical tone. On the other hand, the tax upon her organic and nervous forces resulting from deranged menstrual conditions and from child-bearing—too often allowed to become seriously pathological—taken in connection with her more sedentary and debilitating regimen, amply accounts for her comparatively greater organic asthenia, and a consequent inability of her system to withstand the effects of a suddenly developed, prolonged, and severe organic strain, such as pneumonia occasions. A greater liability to the development of a functional or organic asthenia in the female, from a suddenly occurring vital and functional strain, in place of another and more adequate explanation, must account, then, for the greater fatality that results in females than in males. The rational indication for treatment as regards the greater fatality in females is twofold—namely, to avoid in her the occurrence of organic strain, and, secondly, to give an earlier support to her functional and vital forces, by an earlier and more liberal use of tonics than is required in males.

We now come to a brief study of the clinical signs of prognostic significance in pneumonia. They are such as more especially relate to the functional state of the circulation and respiration and such as denote the concurrent and prospective general sthenic condition of the patient, and comprise the character and rapidity of the pulse, the character of the heart's action and of the general circulation; the conditions of respiration; the course of the attendant fever, and more especially as it may depart from a normal pneumonic temperature curve; the character of the sputa; the patient's mental condition, and, particularly, such constitutional symptoms as denote the concurrent progress of the local process—as shown by physical signs.

The Pulse.—A great frequency of the pulse, of 130 to 140 or upward, if it is small and feeble, or early in the course of the disease is large and soft—and if at the same time there are marked lividity of the face, cyanosis, and venous fullness, particularly of the head, neck, and face, most apparent in the sublingual veins; and also if there is evidence of concurrent venous stagnation, denoted by a persistently moist, cool, clammy feeling over the face and limbs—most quickly found at the wrists and knees—and by a slow return of color to a point blanched by an impress of the finger—these facts imply danger from a failing circulation.

The Heart's Action.—A powerfully acting heart early in the course of the process, concurring with a soft, small, or full pulse, and symptoms of respiratory distress indicated by cyanosis, denotes danger from pulmonary resistance, pressure, and congestion (the latter generally collateral), and indicates venesection or the use of cardiac sedatives. A rapidly but feebly acting heart at a more advanced stage of the process, concurring with delirium, signs of nervous prostration, and of general circulatory typhoid stagnation, denotes organic failure, and indicates a correspondingly vigorous and prompt tonic treatment. A *dicrotic* heart's action, generally present, if at all, in the earlier stages, denotes a good cardiac tone, but an obstructed pulmonary condition delaying the right heart's systole. If the symptom is accompanied with respiratory distress, it especially indicates venesection or circulatory sedatives.

Frequency of Respiration.—If there is present great frequency of the respiratory action, amounting to 60 or upward to the minute, it denotes pulmonary functional distress from circulatory pressure *; and if respiration is frequent but shallow, and occurs with general symptoms of imperfect hæmatosis, the symptom indicates danger from failure of the respiratory apparatus, and, back of that, of the general organism. The indication is to relieve pressure, if necessary by venesection, and to support the system.

Sputa.—Much has been written relative to the prognostic value of the pneumonic sputa. In my opinion, only a sputum exhibiting extreme characteristics has prognostic significance. Its entire absence and its presence in great amount have been equally unimportant events as far as results went in the cases I have seen. However, it is generally conceded that a non-adhesive, diffluent, and watery prune-juice, or markedly puriform sputum, rather than a muco-hæmorrhagic and adhesive sputum, denotes a less favorable prognosis. This it does not do so much by virtue of any progress it denotes of the process taking place as it shows a depraved constitutional state of the patient; and treatment is indicated accordingly.

Fever.—A protracted pneumonic pyrexia, without respect to the normal temperature curve, or an unusually high general curve, averaging 105° F. or upward, and irregularities of the normal curve, particularly a late considerable and prolonged rise, instead of a normally occurring decline with or at the time of crisis, denote some danger. The former, a prolonged pyrexia, generally denotes a non-progression of normal changes in the consolidate. And a late rise denotes developing vital failure and imminent asthenia. Both conditions indicate tonics internally, warmth externally, and support, rather than febrifuges.

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* That frequency of respirations in pneumonia is due to pressure I shall be able to show when discussing that phenomenon under "Symptoms and Course."

Delirium, occurring as an early symptom in an adult with acute pneumonia, and persistently remaining, denotes a depraved, asthenic condition. It is not an infrequent symptom in alcoholic subjects and in subjects with Bright's disease, and is to be regarded as an unfavorable sign. In the more depraved of these cases there is a non-progression of the normal local changes (in the consolidate), and congestion and general collateral œdema are to be apprehended. Stimulant tonics are indicated by persisting delirium, especially in alcoholic subjects. In some of these cases œdema is due to a developing cardiac or to a general organic circulatory insufficiency, and is a symptom of general vaso-motor exhaustion.

Icterus.—The occurrence of icterus has been said, and is believed by some, to denote an unfavorable prognosis. Although one form of icteric expression, the hæmatogenous, denotes an impaired hæmic condition, and in so far an unfavorable state as regards an adequate hæmatosis, and though true icterus may result in the course of pneumonia from venous congestion of the liver and pressure upon the biliary ducts, yet I do not attach great significance to them. I have seen partial jaundice develop in patients convalescing from pneumonia, and therefore do not deem its occurrence an important sign. True jaundice resulting from venous pressure indicates, if serious, venesection. Hæmatogenous jaundice indicates support.

General Summary of Unfavorable Prognostic Signs.—A rapid, uncertain, soft pulse, frequent shallow and imperfect respiratory movements, a markedly cyanotic countenance, an increasingly higher and prolonged febrile temperature, and especially an undue late temperature rise, a non-occurrence of crisis, a cool, clammy, perspiring surface, purplish, moist, cold extremities, a semi-conscious, apathetic, mental state, a prune-juice, diffluent, or offensive sputum, developing tracheal râles, developing bronchial râles and œdema in collateral areas, deep drowsiness, slipping down in the bed, and the occurrence of general typhoid symptoms—denote imminent danger.

Summary of Favorable Prognostic Signs.—A pulse of 120, thereabouts or under, of comparative fullness; an unoppressed heart action; a clear facies, denoting an adequate respiratory action; an appreciative mental state; a moist, not too dark tongue; general bodily warmth; quick return of color to a point blanched by pressure; the continued excretion of dark urine, taken in connection with physical signs that show a normal progress in the local consolidate, denote a favorable condition and progress of the case.

Furthermore, a preceding normal development and procession of the more prominent phenomena of the disease—namely, the occurrence at the outset of a well-marked initial chill and of a succeeding or concurrent, moderately well-marked attendant pyrexia of 100° to 103° or thereabouts; of a prompt formation of a concrete and rather extensive local process; of an adhesive sputum; of an early appearance of dark-colored urine; of an active excretory function, especially of urine; of a good mental state; of a well-marked and duly occurring defervescence and crisis, and of concurring signs, denoting a continued adequate hæmatosis—indicate both a normal process in its development and degeneration and such continuously good general tone of the organic forces as foreshadow a favorable termination.

Review.—With reference to the more prominent prognostic data, we have seen (1) that a *greater extent of local process*, of pulmonary consolidation, does necessarily and in a corresponding degree influence a more unfavorable result, and justify a worse prognosis, while, on the contrary—for reasons advanced, but mainly because more extensive consolidations are most generally met with in more sthenic cases that, as a rule, terminate in recovery—*it is probable, generally considered, that a more extensive consolidation rather justifies a better prognosis.*

(2) While the fatality is greater in *apex cases*, this result does not occur from any reason relating to such site in itself, neither on account of graver resulting constitutional symptoms nor of a more destructive local action in those cases, *but is to be explained by the worse constitutional, asthenic, precedent conditions*, and the consequently diminished sustaining power *present in the patients* in whom this localization occurs, which diminished power, local and general, such development only serves to indicate the presence of.

(3) *Age.*—Contrary to the most natural inference from general teaching, *age in itself is not shown to essentially influence the prognosis of acute pneumonia.* While the fatality of that disease is notably greater in the aged, and death results in an increasing ratio, *pari passu*, with advancing decades in life, yet, as we have determined, it is not the greater age *per se, but the greater debility consequent upon an increased senility, and as it occurs in badly nourished foundlings*, that must be held accountable for such results.

(4) We have seen also that the greater fatality of the disease occurring in the female sex (33 per cent. greater than in the male) is to be accounted for in the same manner, not by any worse action of the disease, but by reason *of the natural inferior powers of resistance met with in the female sex.*

(5) It has been shown, *contrary to general teaching*, that a higher but normally limited fever, generally considered, *indicates a better rather than a worse prognosis;* the support of this deduction is derived from the fact that a higher normal fever indicates better sthenic conditions, which, as a rule, favor recovery.

(6) *Of Complications.*—Although complications severally increase the mortality from pneumonia from 20 per cent. in some cases to 50, 75, or even 100 per cent. in others, yet here we have seen that it is not essentially the complication itself, whichever it may be, that directly causes the unfavorable results, but that in each case such result *is due to an asthenia* (functional or organic) that such complication or its results directly promote or predispose to. Instances of the manner in which such functional or organic exhaustion and asthenia result from complicating causes have been given—*e. g.*, special functional (local organic) ex-

haustion is seen to result from the additional resistance due to a pleuritic or pericardial adhesion, while general organic exhaustion is equally predisposed to by the deranged nutritive results of Bright's disease or alcoholism.

Lastly, we have seen that *acute alcoholism* (that comprises the presence of unaltered alcohol in the circulating blood), by its special chemico-inhibitory action on hæmatosis, in addition to the respiratory inhibition caused by the action and presence of the developing local process, to the action of a morbid pressure, and to congestion in collateral areas, *forms a direct and, in some cases,* beyond doubt, *fatal complication in this disease.*

Conclusion (A).—With regard to the correctness of general teaching, and as to the true effect and action of each of the generally accepted prognostic conditions, we have seen that two of the more prominent conditions usually taught and held to denote a worse prognosis—namely, a greater extent of the local process (lesion) and a higher grade of fever—*contrary to general teaching, do not actually imply a worse prognosis,* but, on the other hand, as they are merely the expressions of a better sthenic or tonic condition (which, as shown, predisposes to recovery), *are to be regarded in general as indicating a better prognosis.* With regard to the significance of a greater extent of the local lesion, this conclusion will appear the more reasonable when we have studied the pathological course of the local process, "morbid anatomy," of the affection, when we have seen that a greater extent of consolidation and its more rapid formation mean a quicker depletion of the involved, obstructed circulating blood, a quicker cessation of morbid pressure and of a functionally obstructive circulatory stress on the one hand, and of dyspnœa and the danger of functional insufficiency (pulmonary and cardiac), relief, and a quicker convalescence on the other. And with regard to the prognostic significance of a higher fever, while, as a rule, a febris pneumonica is never sufficiently high or prolonged to be a cause of danger in itself, and as its higher manifestations, generally speaking, occur in the more tonic and robust cases, such pathological expression, as stated above, indicates a better rather than a worse result.

In regard to the true significance of the remaining conditions held to influence the prognosis unfavorably—*i. e.,* age, especially advanced age, the female sex, an apex development, and complications—while they do justify a worse prognosis, yet, with regard to them also, we have determined the important fact, therapeutically speaking, that it is not either of these conditions in itself and directly which promotes unfavorable results, but a consequent functional or constitutional effect of such condition. Furthermore, we have seen that this injurious effect or factor is a common characteristic or exponent, a resultant of all the unfavorable conditions enumerated, and *also of all complications* except acute alcoholism, and that this common exponent or characteristic *is asthenia.*

Conclusion (B).—*With regard to the prognosis in general of acute lobar pneumonia* we may say: Occurring in moderately sthenic subjects, not debilitated by immediately acting or more remote causes or complications, and without regard to the extent of lung involved, the age or the sex of the patient, or the degree of fever, as such will occur (naturally) in these cases, *the prognosis is to be regarded as favorable. Recovery is the rule and death is the exception* in such cases. *Occurring, however, in debilitated subjects,* whether the debility is a precedent state due to advanced age, to the female sex, or to previous disease, or is a concurrent development due to complicating conditions, and to the extent and rapidity that such debility favors the development of functional asthenia of either the right heart or of the lungs, or of a general asthenia, *the prognosis is rendered correspondingly doubtful or bad.* The fatality in these cases, *unless prevented by a prompt and rational treatment,* will be in proportion to the degree of the asthenia developed; and in all of these cases the development of asthenia and insufficiency will depend upon the cause on the one hand and the treatment practiced on the other.

(C). *Conclusions* and deductions from the foregoing relative to the essential pathology, nature, or character, and action of acute lobar pneumonia may be stated as follows: *We have seen that asthenic conditions pre-eminently cause its fatal results; and, conversely, that sthenic conditions promote convalescence,* from which it is fair to conclude *that acute lobar pneumonia is a dynamic or sthenic malady; furthermore, as asthenia occurs in connection with morbidly overworked functions, we may more fully characterize it as a dynamic and functional malady,* as I have previously shown it to be.

(D). The conclusion as to a rational preventive treatment of unfavorable results, which I have shown to be the principal therapeutic requirement of the malady, is that its indications reside in each instance, and in all cases so far as the pneumonia *per se* is concerned, *in the sthenic manifestations.* A hypersthenic manifestation of action and energy on the part of the circulatory forces may, in some cases and in full-blooded subjects, in whom reactionary energy and pressure are sometimes powerfully excited, cause danger from apnœa, by forcing congestion throughout the unoccupied and collateral portions of the lungs. This congestion, being due to pressure, therapeutically indicates circulatory sedatives, and especially measures for checking the heart's action; and in some cases where there are a hypersthenic action and full blood-state conjoined with an irritable nervous condition and a resulting and dangerous morbid pressure, causing congestion and threatening apnœa, venesection is the urgent indication as a means of relieving both the stress and the congestion. While hypersthenic manifestations may occasionally occur in connection with the developing local process in an early stage of the disease, in the great majority of cases asthenic manifestations, local or general, will predominate. They must be carefully looked for, and, if possible, anticipated in each case, and the indication promptly met. The more markedly asthenic conditions are to be found or anticipated in connection with advanced age, the female sex, apex development, and the concurrence of Bright's disease, chronic alcoholism, endo- or pericarditis, or of pleurisy, and each will indicate its special therapeutic need as to the time and degree of its tonic requirement. Meanwhile the special contra-indication to the administration of alcohol, except in small and diluted doses, as a cardiac tonic in this disease, and especially where a difficult hæmatosis forms one of its most prominent symptoms, must be borne in mind.

Finally, we may refer with satisfaction to one important result, a practical gain, from the foregoing study—namely, the development of rational indications for the treatment of the disease in the presence of the above-named conditions and complications, not heretofore, as I am aware, rationally pointed out. By resting upon previous limited teaching and upon statistical evidence simply, and therefrom regarding advanced age, essentially and in itself, as a valid reason for an increasing mortality in the more aged subjects, we have disclosed, first, no indication whatever for a treatment to be pursued; second, as age is not capable of being altered or ameliorated by treatment, *no* indication can possibly be derived from an age condition by which the chances for a resulting convalescence can be improved or promoted, or by which the pneumonic attack can be rendered less dangerous. On the other hand, as age in these cases is irremediable (if it essentially comprises the danger that is shown to exist in these cases), as physicians we are helpless, and therefore, and in so far, justified as to our treatment of the disease in aged subjects, whether we lose 20 per cent. or even 100 per cent. of the most aged, and whether such treatment is characterized by the greatest skill, the utmost ignorance, or even by entire neglect, the responsibility for our results resting upon the fact of an irremediable state. By the same ground of reasoning, sex also not being subject to remedial treatment, we are exonerated if we lose in our practice three females to two males with this disease. And correspondingly, upon the same ground of helplessness, we are to be excused if we lose a certain large per cent. of our patients with pneumonia complicated by Bright's disease, chronic alcoholism, or endo- or pericarditis, these chronic conditions also not being sufficiently susceptible to treatment to make the possible results gained thereby of avail or advantage as regards the course and convalescence of the acute disease we are treating. But, having determined what the true element of complication causing fatality in these cases is, and that it is not the condition itself, that is not subject to treatment, but a vital characteristic of the condition, that *is* subject to treatment, we have removed our helplessness, and at the same time all excuse for our unscientific treatment and its worse results.

Whereas we were not responsible, under the teaching that has hitherto prevailed, for not doing what we could not do; now, knowing that it is not the apparent condition itself but a character of it that is to be anticipated, watched, and prevented or corrected, we not only have a clear indication as to what we should do, but are responsible if we do not do it in time and, to a degree, successfully.

At any rate, by practically acknowledging or accepting the fact that asthenia is the truly complicating element and factor of danger in the conditions mentioned, we shall find that by the use of the proper means we may save a larger per cent. of our aged patients, and proportionally and similarly we shall more successfully treat our female subjects, which otherwise we could have no hope of doing; and also in the presence of otherwise dangerous complications we may be able to anticipate the cause of danger in each case, and by rational means protect and sustain our patients until the pneumonic action has passed and convalescence is assured.

FUNCTIONAL APHASIA.

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TRANSIENT aphasia, unattended with brain-softening, cerebral hæmorrhage, or other brain lesions, and without paralysis or convulsions, may be only the result of functional derangements in the third frontal or first and second temporal convolutions, or of all these speech-tracts of the cortex cerebri. Or it may depend upon a temporary functional change in the white brain matter intervening between the speech-tracts and the corpus striatum; or, again, upon a change in that part of the corpus striatum in relation with the speech-tract. And when this disturbance is in the third frontal convolution, or in that part of the corpus striatum in relation with it, or in the white intervening matter, the aphasia is *motor*, the muscular machinery of speech not responding to volitions in a way to give correct expression to words.

When, however, the disturbance is in the first and second temporal convolutions, or in the efferent fibers proceeding from them to the corpus striatum, or in that part of the corpus striatum in relation with the first and second temporal convolutions, it is *sensory*, and there is a failure of the tracts to respond to and convey the motor volitions of words during the continuance of the temporary disturbance. And, further, when there is functional disturbance of the entire speech-tract, frontal and temporal, cortical, tubular, and ganglionic, a train of symptoms such as occurred in the following cases may be developed.

A gentleman, fifty-seven years old, who had suffered some for two years from indigestion, with sympathetic cardiac disturbance, attended with the loss of about every sixth heart pulsation, had been very much improved by treatment in every other respect, as well as cardiac and gastric. On the morning of May 7, 1887, having had an unusual pressure of his extensive business, attended on the 6th with some little excitement in a complicated settlement with a friend, and resorting to a foot-bath on retiring, not feeling quite so well as usual, he got up and walked out, it being Sunday, his family noticing nothing unusual in his appearance. When his breakfast was nearly ready he came in naturally; but, to the astonishment of his wife and her sister, when he spoke to them, though he uttered well-measured sounds by his voice, not one single intelligible word was uttered. The wife and sister, thus surprised and frightened, as might be expected under such circumstances, walked about him, weeping and wringing their hands, of course to his astonishment and fright, as he was not aware of his failure to express his ideas; and this evidently produced greater disturbance with him, causing excited inaudible vociferations. But they sat down to breakfast, when, as usual, he attempted to say grace. And, though his vocal sounds were well measured, and his sentences apparently all well turned, he not only failed to utter a single intelligible word, but he failed also to stop, till a neighbor was called in, who succeeded, after about twenty minutes, in interrupting his vociferations, evidently very much to his astonishment, as was apparent by his somewhat excited attempt at explanation and remonstrance, all in the same unintelligible manner. He ate no breakfast, and a physician of the village, hastily called in, made a temporary prescription, and advised them to send for me; but, as there were no Sunday trains, a carriage sent, nearly twenty miles, did not enable me to reach his residence till about 5 o'clock P. M. And as his meaningless vociferations had continued, with only an occasional audible word, I found him, his family, and the villagers very much excited, he attempting to make them understand his language, and they in turn assuring him that they did not understand him. He had eaten nothing since the evening before, and looked a trifle haggard. His tongue was slightly coated. The weather had been hot for the season.

I wet-cupped the back of his neck and dry-cupped the temples high, and then applied a gentle current of electricity about the head and neck, after which he got off more intelligible words. I gave him avena, about ten drops, with five grains of iodide of potassium, to take before his meals, and two grains of ammoniated citrate of iron with two drops of tincture of nux vomica after; also an improved compound cathartic pill, to be repeated, with a warm foot-bath, at evening, and advised him to eat some supper, as it was ready. When seated at the table, he again attempted to say grace, with only an occasional understandable word, and, after a somewhat protracted effort, was brought to a close by a gentle touch of the hand by his wife. He ate an egg and some toast, and conversed better, however. I applied a gentle electric current at bedtime as before, and, after the foot-bath and taking the second pill, he went to bed and to sleep. As the pills were about to operate, during the night he got up and went for the wash-bowl the first time instead of the commode. But he readily corrected the mistake, at the suggestion of his wife that he was wrong. The second time he was called up he went to the right vessel without any suggestion from her. Then falling asleep, he rested quietly till morning, when he got up, as his wife expressed it, "all right," and had gone out when I came down, having kept quiet to avoid disturbing him till quite late.

We then took a walk, during which he explained all the circumstances very correctly. He told me how surprised he was at first at the failure of his family to understand him, and even at our stupidity in not understanding his well-measured words and rounded sentences, which he thought were so very plain. He ate a fair breakfast, after an intelligible grace of moderate length.

As he had some malarious symptoms, I ordered one improved compound cathartic pill each evening, and gave him, in addition to the medicines already named, two grains of cinchonidine four times a day, and a warm foot-bath at evening. I saw him again on the following day, May 9th, and found him all right, except a slight pain and heaviness in his head, for which I again wet-cupped the back of his neck and applied electricity very gently, as before, and directed a blister to the back of his ears and one to the back of his neck.

May 14th.—One week after the attack he wrote me that his appetite was not very good, and I sent him ammoniated citrate of bismuth, to take a grain with the iron and nux vomica after his meals. This treatment was continued till June 7th, and with the blisters once, as directed, for one month after the attack, when five drops of avena were given alone before each meal, and only one drop of tincture of nux vomica with one grain of ammoniated citrate of iron after. This treatment was continued for another month, when, as he appeared to be in an excellent condition, treatment was virtually suspended, but very little more being apparently indicated.

If, as is now generally believed, the speech-tract of the cortex cerebri is mainly in the third frontal and first and second temporal convolutions, the left hemisphere being generally used in right-handed and the opposite sometimes in left-handed persons and others, and if, as is also generally held, the third frontal convolution is *motor* and the first and second temporal convolutions are *sensory*, then the disturbance in this case must have involved, in a limited degree, not only the third frontal, but also the first and second temporal convolutions. For, though in this case the muscular machinery of speech responded to volition so as to measure off sounds with regularly turned sentences entirely satisfactory to himself, as appeared, he failed to use understandable words, showing an imperfect condition of the motory tract of speech in this third frontal convolution. And, though he appeared to understand words uttered by others, the sensory speech-tract of the first and second temporal convolutions was so far disturbed as to be disqualified for the time for carrying to the motor nerves controlling speech correct impressions of the volitions of words the mind would use to communicate ideas, and hence the utterance of inaudible sounds, instead of audible understandable words, and the sensory aphasia, as well as motor, in this interesting case.

It appears probable, further, that the disturbance in all these speech-tracts of the cortex cerebri, corpus striatum, and intervening tubular matter, may have consisted in a passive congestion arising from solar heat, malaria, and fatigue, with the excitement to which he had been exposed, and hence the wet-cupping to avoid lesion, electricity and avena to aid vital action, cinchonidine and pills for the malaria, iron, nux vomica, and bismuth for the blood and digestion, blisters to allay meningeal irritation, and the warm foot-baths to detract from and relieve cerebral congestion—all of which appeared to act favorably, the iodide of potassium being given to guard against depositions of any kind.

This view of the ætiology and pathology in this case appears to be borne out, to some extent at least, by that of a more recent one in the person of another gentleman of about eighty:

> He had several attacks of what appeared to be a collapse of the nervous system, in one of which he fell to the ground and remained unconscious for an hour or more. On the morning of June 12, 1887, the weather being hot, in attempting to say grace he utterly failed to get off a single intelligible word, though measuring off sounds for about ten minutes, as I was assured, when he recovered the power of speech, saying, "I don't know what ails me this morning."

In this case, in which there was also evidently a temporary disturbance of the third frontal and first and second temporal convolutions of the speech-tract, involving very likely the corpus striatum and intervening tubular portions, as well as the cortex cerebri, electricity, with two grains of ammoniated citrate of iron and two drops of tincture of nux vomica at meals, appeared sufficient to rally and sustain his system above the functional aphasic standard, there being, as was evident in this and probably in the other case, no softening or other lesion of brain tissue, or sanguineous or serous effusion—pathological conditions so often causing and attending aphasia with convulsions or paralysis, or both.

The importance of discriminating between *functional* aphasia and that depending upon brain softening, sanguineous or serous effusion, or other brain lesion or disease, is apparent, as affording rational indications of treatment. And it may be equally important to bear in mind that cases primarily functional may, without judicious treatment, terminate in brain softening, or passive cephalic effusions or exudations, which may then be attended with convulsions, permanent paralysis, etc., with no relief of the aphasic condition. And, while it may be difficult to account for the fact that the left hemisphere is the one generally used, and hence implicated, it may very possibly be due to the same anatomical and physiological conditions that render most people right-handed. And this is strengthened by what appears to be a fact, that when aphasia occurs from functional or organic changes in the speech-tracts, cortical, ganglionic, or tubular, of the right cerebral hemisphere, it appears to have oftenest occurred in left-handed persons. More careful critical clinical observation, however, is needed to settle this, as well as other points connected with this intensely interesting subject. But in all inquiries bearing on these questions it may be well to bear in mind that the disease is essentially physical, the nervous or brain-tract only, and not the mind, being at fault.

208 Madison Street, Syracuse, N. Y., *July, 1887.*

MINOR AMPUTATIONS AT THE CHAMBERS STREET HOSPITAL.

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The following is a summary of sixty-six cases of amputation of the finger, and one of the great toe—in all, sixty-seven—with incidentally several tenorrhaphies and resections, occurring in the Out-door Department between the months of August, 1886, and May, 1887.

Before considering these, however, it might be of interest to briefly outline the method followed in these amputations, and their after-treatment. The cases were almost invariably seen a short time after the receipt of the injury. At first sight it would seem as if the prospects for antisepsis and primary union were far from favorable, the injured part being generally much crushed, with paint, machine-grease, printer's ink, or dirt so ground and rubbed into the skin and lacerated tissues that it usually was impossible to thoroughly cleanse them; still, the first step was the attempt to do so with nail-brush and soap and water, and afterward with a solution of bichloride of mercury, 1 to 1,000.

If the amputation was to be that of a phalanx, or of a metacarpal bone near the metacarpo-phalangeal articulation, cocaine was generally used as an anæsthetic; if the injury was nearer the wrist, ether was employed, inasmuch as in the latter case the hand was usually so lacerated that cocaine, in quantities sufficient to produce the requisite anæsthesia, was deemed unsafe.

If cocaine was chosen, it was injected into the skin, rather than beneath it, with an ordinary hypodermic syringe, the needle being previously cleaned with sol. acid. carbolic., 1 to 40. The injections were usually four in number, about five minims of a four-per-cent. solution in each, encircling the part one eighth to one quarter of an inch above the level of the amputation, fifteen to twenty-five minims of the solution in all being sufficient to produce complete anæsthesia. After sensibility to pain had been removed, a small Esmarch bandage was applied around the wrist, with a couple of turns around the hand and the root of the finger, if the latter was the seat of operation, thus indefinitely prolonging the anæsthesia, as described by Corning and others. If more than one finger required amputation, injections of the minimum quantity that would produce anæsthesia were made in each, and the circulation in each was arrested by the bandage, as before; ether was generally used in triple or quadruple amputations of the phalanges, however, on account of the necessarily large quantity of cocaine to be used; still, in one instance (not recorded here) four fingers were removed under cocaine without pain and without marked constitutional symptoms.

In fact, in reference to cocaine it may be said that during the past year it has been very freely used here, and so far only one instance of its dangerous effects has been noted—a case of temporary syncope in a patient who was sitting up watching an operation on himself—an accident that might easily happen without the aid of the drug.

The amputations, with but two or three exceptions, were performed with flaps; but, in accordance with the wishes of the patient, as much of the part was preserved as would insure a useful stump, and thus the classical disarticulation with palmar flap, the cicatrix well out of harm's way on the dorsal surface, was rarely seen, no more bone being removed than was absolutely necessary, and all available skin being utilized for flaps, whether lateral, antero-posterior, palmar, dorsal, or circular, lateral flaps being preferred. When necessary, the phalanx was cut with a forceps, unless unusually dense and thick; the metacarpal bone was either cut with the forceps or sawn through, according to its size. Though the forceps crushes the bone slightly, it is rare for caries or necrosis to follow its use, and even these may be due to the primary injury.

After the Esmarch's bandage had been removed, the active hæmorrhage was controlled by ligating the digital arteries with catgut; the ends of nerves and tendons were trimmed off, a catgut or horse-hair drain was placed between flap and the end of the bone, and the wound closed with catgut sutures. Solution of bichloride of mercury, 1 to 1,000, was used to irrigate the wound; the instruments were kept in a 1-to-40 solution of carbolic acid.

The dressing consisted of iodoform next to the skin, either in the form of powder, ointment, or gauze, preferably the latter, covered by several thicknesses of bichloride gauze, either already prepared, or made extemporaneously by wringing a roll of absorbent gauze out of a 1-to-1,000 solution. Over these was placed a layer of absorbent cotton, the whole hand generally being included in the dressing for the first week.

The patient was instructed to return the next day, but the dressing was not removed for several days, unless there were indications to that effect. Still these cases required redressing oftener than ward cases, as the dressings became loose and soiled in a surprisingly short time; again, the patients often fancied that they were slighted and badly handled if not redressed every few days, and might pursue treatment elsewhere, and occasionally they would remove the dressing to satisfy themselves that all was doing well. One patient with a sutured tendon and nerve confessed that he had taken off bandage, splint, and gauze the day after the operation, and, when expostulated with, said that some friends wished to see how badly he had been hurt, and, as they had come all the way from Newburg, he could not refuse them.

Of the sixty-seven amputations, fifty-five were primary and twelve were secondary; of the former, forty-five were single, seven were double, one was triple, and two were quadruple; of the latter, eleven were single and one was double.

Cocaine was used as an anæsthetic in forty-eight cases with only two failures, one of which occurred in a single amputation, the other in a double amputation at the metacarpo-phalangeal articulation. Three of the forty-eight were double amputations; the remainder were single. Ether was given in the nineteen remaining cases.

Of the total number, forty healed by primary union—that is, without suppuration or separation of the flaps, and practically under one dressing; of these, two were quadruple, one triple, and three double. Eleven healed by secondary union; three of these were double. In four the result was unknown. In the remaining twelve, union was attended with suppuration along the drain-sinus, but there was no separation of the flaps.

In only ten cases of those in which the date of cure was known was complete healing delayed beyond four weeks.

Thirty-three patients reported in May in response to postal-cards. In twenty-six the stumps caused no discomfort; four of these were double, one was triple, and one quadruple. In six there was tenderness in the end of the stump on firm pressure, but not sufficient to cause any hindrance in their work. In one, pressure and motion caused pain in the stump; this was a case of amputation through the shaft of the first metacarpal, an area a quarter of an inch square having been left to granulate.

Out of twenty cases of amputation through the neck of the proximal phalanx, or the proximal interphalangeal joint, thirteen stumps were freely movable in every direction, flexion and extension being complete; in five the motion was limited, in one of which there was only lateral motion; no record was made of the mobility of the remaining two.

There were seven complicated cases—three of amputation with suture of the tendon of the extensor communis digitorum in its digital portion; in two of these, two tendons were divided, in the third only one tendon; one case of amputation with suture of the median nerve at the wrist; three cases of amputation with resection of a phalanx. In all the cases of tendon suture there was complete restoration of function; in the case of nerve suture sufficient time had not elapsed to make it certain that function had returned. Of the resections, only one case was successful, the tendons having sloughed in one case and the transplanted finger having become gangrenous in the other. A few instances might more fully illustrate these points.

Case I.—A. H., aged sixteen, office-boy, March 28, 1887. Compound comminuted fracture of left first metacarpal bone, with division of extensor tendons of thumb. Hand had been crushed by a heavy case shortly before. Ether. Removal of comminuted portion of first metacarpal; end of remaining half smoothed with rongeur; articular surface removed from base of proximal phalanx of thumb, and phalanx then wired to stump of first metacarpal by means of silver wire passed through drill-holes in both bones. Divided tendons sutured with silk-worm gut*; flexor tendons not shortened. Patient did not return for after-treatment, but reported April 25th, when there was firm union between the wired bones, with union in the tendons, and motion, still limited, at the carpo-matacarpal and interphalangeal joints.

Case II.—H. D., aged seventeen, carpenter, March 24, 1887. Lacerated wound of right thumb and palm of right hand, and compound fracture of first and second metacarpal bones. Index finger hanging by the tendons and a bridge of skin one inch wide. Hand had come in contact with a circular saw a short time before admission. Ether. Removal of first and second metacarpal bones half an inch from their bases. Base of proximal phalanx of index finger sawn off, and phalanx then approximated to stump of first metacarpal, the right thumb having also been amputated. The bones were drilled and fastened together with silver wire; the respective flexor and extensor tendons were shortened and sutured together with silk-worm gut. Skin was dissected from the proximal half of the palmar surface of the index finger, spread out, and sutured to the edges of the wound in the palm with catgut.

March 28th.—Index finger gangrenous; amputated. Union then took place by granulation in six weeks; at that time there was stiffness in the proximal interphalangeal joint of the middle finger, subsiding under treatment.

Case III.—J. P., aged thirty-one, carpenter, March 7, 1887. Compound fracture of distal phalanx of ring finger and of proximal phalanx of little finger; almost complete amputation of index finger. Compound dislocation at proximal joint of middle finger, with division of extensor tendon at this point. Had pushed his hand against a circular saw just before admission. Cocaine; success. Amputation of index finger through neck of proximal phalanx; amputation of little finger through middle of shaft of proximal phalanx. Antero-posterior flaps in each. Dislocation of middle finger reduced; ends of tendon brought together by two sutures of silk-worm gut.

March 20th.—Primary union in stump, and firm union in bone and tendon.

May 5th.—Stump of index finger perfect as regards motion and comfort; perfect motion in ring finger; complete extension, but flexion to only 25° in middle finger. Stump of the little finger can be flexed to 25° with palm; not painful nor tender.

Finally, there were but four cases of complicating cellulitis, one of which required incision to let out pus; in the others the inflammation subsided in two or three days under a continuous wet dressing.

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* By silk-worm gut is meant the material used in making snells for fish-hooks.

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THE CAUSE OF THE INCREASED PREVALENCE OF SMALL-POX IN COLD WEATHER.

In a paper entitled "Some of the Cold Weather Communicable Diseases," presented at the annual meeting of the Michigan State Medical Society, Dr. Henry B. Baker, of Lansing, considered some of the possible causes of the greater prevalence of diphtheria, small-pox, and scarlet fever during the cold than during the warm months of the year. As regards small-pox, Dr. Baker adduces, in support of the general impression that, in so far as our own country and the present time are concerned, the disease occurs chiefly in winter, certain facts that, as an officer of the Michigan State Board of Health, he has had facilities for ascertaining. To account for this preponderating prevalence of small-pox at that season, Dr. Baker suggests that it may be due to influences increasing the susceptibility of the air-passages to the reception and entrance of the virus. Such a factor, he remarks, may be an excessive withdrawal of water from the body by way of the lungs, with a consequent increase of the salinity of the fluids which constantly moisten the air-passages and the air-cells. According to Dalton, he says, albuminous constituents of the blood should pass out from the blood-vessels into such a saline fluid whenever it contains about four per cent. of chloride of sodium. If this takes place, he adds, the exudations that occur after exposure to cold seem to be explained, and at the same time it seems probable that a virus like that of small-pox, capable of reproduction in the serum of the blood, may find in such an exudate a *nidus* more favorable to its lodgment than on the mucous membrane in its more normal condition.

This hypothesis is ingenious, and, if it can be admitted that atmospheric influences capable of increasing the salinity of a fluid by condensing it, so to speak—*i. e.*, by withdrawing water from it—are able to exert their effect upon parts so remote from the outer air as the pulmonary alveoli, it may be worthy of more attention. But the fact of such subjection of the fluid moistening the interior of the alveoli to atmospheric conditions must, we think, first be proved. In the mean time, there is another suggestion that it might be worth while to follow up—the action of a cold, dry atmosphere as a preservative of the variolous virus. It is well known that small-pox is contracted not alone on confrontation, but also on exposure to fomites sometimes dating back to a sickness that occurred long before. Bearing in mind the facts that heat and moisture are very destructive of the small-pox contagium, and that cold and dryness tend to preserve it almost indefinitely, we may reasonably infer that warm weather limits the prevalence of the disease by more or less restricting its communication to instances of infection by direct personal contact, while in cold weather this method of its conveyance remains quite as operative, and is supplemented by the increased opportunity for mediate infection brought about by the preservative effect of meteorological conditions on the contagium as it exists in crusts, epithelial scales, clothing, bedding, and the like.

IODOL AS A SUBSTITUTE FOR IODOFORM.

The use of iodoform in the treatment of various disorders of the upper air-passages has become exceedingly common. Valuable as the drug is in many cases, its disagreeable odor and sickening flavor are most objectionable, and thus far all efforts to disguise them have proved more or less unsuccessful. An efficient substitute for it, therefore, devoid of its unpleasant qualities, will be welcomed alike by the physician, whose premises and person have been perfumed by it, and by patients, whose appetite it has destroyed. That such a substitute has been found seems probable from the success that has attended the use of iodol, a drug lately introduced, concerning which an excellent article, by R. Wolfenden Norris, is to be found in a recent issue of the "Practitioner." According to this author, iodol is very rich in iodine, containing only seven per cent. less than iodoform, and parting with it more readily. It is said that no toxic symptoms follow on its continued use, and it is therefore to be preferred, not only on that account, but also because it possesses neither flavor nor odor.

It has been found to be a valuable application for the mouth, the pharynx, the larynx, and the nose in all cases in which ulceration exists, whether tuberculous, syphilitic, or malignant. The following preparations are recommended: 1. Insufflations of the pure powder. It is stated that, in using these, it is more important to cover the diseased localities than to measure the amount of the drug applied. 2. Mazzoni's solution (1 part of iodol, 16 parts of alcohol, and 34 parts of glycerin); for application with a brush or in the form of a coarse spray. 3. A mixture of 1 part of iodol, 1 part of glycerin, and 7 parts of vaseline; for application with a brush. 4. Pastilles containing one grain of iodol, 1 minim of glycerin, and 18 grains of glyco-gelatin. 5. A solution of 1 part of iodol in 8 parts of ether; for application with a brush or in the form of a spray. 6. Bougies, each containing half a grain of iodol, for use in the nasal passages. 7. A ten-per-cent. iodol wool, for tampons, etc. 8. Iodol gauze, for dressings.

Iodol is said to possess all the medicinal properties of iodoform—to be antiseptic, anæsthetic, and promotive of granulation and cicatrization, to arrest suppuration, and to deodorize foul secretions; and it is stated that, at the same time, its action is exerted quite as rapidly. If all these statements are substantiated on more extensive trials, a valuable and most acceptable addition will have been made to our therapeutical resources.

MINOR PARAGRAPHS.

THE INDUCTION BALANCE IN THE DISCOVERY OF BULLETS.

In a report of a case in which the induction balance was used for the detection of a needle in the thumb, published in the "Lancet," reference is made to another case in which the apparatus was employed for determining the locality of a bullet that had been shot into the head. A loud sound was heard in front of the patient's ear, but the area was rather large for a bullet, and the patient's brother asked if gold filling would interfere with the test. An examination showed the presence of a large amount of gold in the upper teeth of the injured side, and that fact led the reporter to quote Professor Bell as having said: "If people would make their bullets of silver, copper, or iron, there would be no difficulty in finding them in any part of the body."

THE THENAR MUSCLES OF THE HAND.

In a paper on "The Short Muscles of the Pollex and Hallux of Anthropoid Apes," read at a recent meeting of the Subsection in Anatomy and Physiology of the Academy of Medicine in Ireland ("British Medical Journal"), Dr. Brooks remarked that the names usually applied to the thenar muscles of the human hand had been shown to convey an erroneous idea of their morphology. He had therefore adopted the following names for the short muscles of the thumb: the abductor pollicis and the opponens pollicis, as ordinarily described; the flexor brevis pollicis, consisting of a radial head, as described by Gray and Ellis, and an ulnar head, a small, deep muscle arising from the base of the metacarpal bone of the thumb and inserted into the sesamoid bone at the ulnar side of the metacarpo-phalangeal articulation; and the adductor policis, consisting of three parts —(*a*) a slip attached to the radial sesamoid bone of the thumb, (*b*) the adductor obliquus = the so-called inner head of the flexor brevis, and (*c*) the adductor transversus = the adductor pollicis.

CHLOROFORM ANÆSTHESIA AND THE STATE OF THE PUPIL.

Henry J. Neilson, M. B. ("British Medical Journal"), says that it has always been very difficult for him to determine the exact moment at which a patient became sufficiently anæsthetized with chloroform for an operation to be proceeded with, and that he has found the common sign of the abolition of the conjunctival reflex very misleading. Now, however, as the result of clinical observations and experiments on animals, he is convinced of the truth of certain statements made twelve or thirteen years ago by Budin and Coyne, but afterward disputed by Schiff, to the effect that the state of the pupil was a trustworthy sign. Moreover, says Mr. Neilson, accepting the declaration by a committee of the British Medical Association that diminished blood pressure is one of the chief dangers of chloroform anæsthesia, the state of the pupil may be taken as a valuable guide as to whether or not the patient is in danger; contraction of the pupil indicates diminished pressure, and no more chloroform ought to be given until it dilates again.

MODELS AS A MEANS OF TEACHING.

In a recent address before a conjoint meeting of a number of branches of the British Medical Association, entitled "The Study of Skin Diseases as illustrating the Doctrines of General Pathology" ("British Medical Journal"), Mr. Jonathan Hutchinson drew a forcible picture of the teaching power of models. Probably, he said, not one in a hundred of the British profession had ever seen a case of Kaposi's disease, or would see one within the next twenty years; yet it could be studied at any time at the Hôpital Saint-Louis, in Paris, together with Raynaud's disease, the varieties of morphœa, the rare forms of lupus, and the like, by means of the models there to be seen—that "never either get well or die, but remain always ready for inspection."

EPITHELIOMA IN CONSEQUENCE OF PSORIASIS.

In the "Monatshefte für praktische Dermatologie" ("Centralblatt für klinische Medicin"), H. Hebra reports the case of a man who, being in other respects healthy, had suffered for a long time with psoriasis, for which he had undergone many forms of treatment. A peculiar wart-like condition of the skin gradually supervened, with the formation of rhagades and fissures, followed in a short time by deeper losses of substance. In the course of two years more, large ulcers formed on the arm and the thigh, and proved rebellious to all surgical measures. Cachexia shortly occurred and the man died. Microscopical examination of portions of tissue cut from the lesions during life revealed the characteristics of epithelial cancer.

DISLOCATION OF THE TESTICLE.

In the January number of the "Revista de Ciencias Médicas," Dr. Mariani reports the case of a man who, on lifting a heavy weight to his shoulder, was attacked with very severe pain in the right inguinal region, and found that the testicle of that side was absent from the scrotum, having been forced up into the inguinal canal. As he was unable to restore the organ to its natural situation, he called in the aid of a physician, who likewise failed. Repeated attempts at reduction, including one under anæsthesia, having proved unsuccessful, it was thought best to cut down upon the testicle. This was done, and the gland was found so entangled in the fibers of the external pillar of the internal abdominal ring, which had been ruptured, that it was still impossible to replace it in the scrotum; consequently it was removed. The author of an abstract of the report, published in a recent issue of the "Centralblatt für Chirurgie," seems to question the expediency of the operation, but, in view of the proneness of displaced testicles to undergo malignant degeneration, it may be considered that the removal of the organ was justifiable.

THE INTENTIONAL SPREAD OF SMALL-POX.

In times of war there have been rumors of partisans of one side having taken measures to infect the hostile army with small-pox, but we do not remember to have heard before of such means being resorted to in a private feud. The "New York Times," however, publishes a statement to the effect that a man belonging in Los Andes, Chili, lately procured some variolous virus, and placed it in a quantity of tobacco which he left in a place where some member of a family that he hated would be sure to find it. One of the children did find it, and the family made use of it. The report adds that the whole family died of small-pox, and that the criminal himself contracted the disease and died soon after having confessed his evil deed.

ITEMS, ETC.

The Health of Boston.—During the week ending Saturday, August 6th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 5 cases and 3 deaths; scarlet fever, 4 cases and 2 deaths; typhoid fever, 17 cases and 1 death; measles, 38 cases. There were also 24 deaths from consumption, 6 from pneumonia, 3 from whooping-cough, 12 from heart disease, 4 from bronchitis, and 11 from marasmus. The total number of deaths was 260, against 211 in the corresponding week last year. There were 150 deaths of children under 5 years of age, the deaths from cholera infantum being 75 in number.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 9, 1887:

DISEASES.	Week ending Aug. 2.		Week ending Aug. 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	30	16	42	3
Scarlet fever	33	8	28	4
Cerebro-spinal meningitis	4	4	3	3
Measles	32	5	24	1
Diphtheria	90	29	80	23
Small-pox	2	1	7	1

The Medical Department of the University of Buffalo.—Dr. Charles G. Stockton has been appointed professor of theory and practice of medicine and clinical medicine to fill the vacancy caused by the death of Dr. Thomas F. Rochester. A department of veterinary medicine has been established, for which, it is expected, a new building will be erected and fully equipped.

The Medical Department of Niagara University.—Dr. F. R. Campbell has been appointed professor of materia medica and therapeutics, to fill the vacancy caused by the resignation of Dr. Charles G. Stockton.

The Lehigh Valley Medical Association will hold its seventh annual meeting at the Water Gap House, Delaware Water Gap, Pa., on Wednesday, the 17th inst. The annual address, on "Lessons taught by the Analysis of a Year's Surgical Work," will be delivered by Dr. W. L. Estes, of South Bethlehem, Pa.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 24, 1887, to August 6, 1887:*

MAGRUDER, D. L., Colonel and Surgeon. Granted leave of absence for one month, to take effect on or about August 10, 1887. S. O. 170, A. G. O., July 25, 1887.

CALDWELL, D. G., Major and Surgeon. Order relieving him from duty at Fort D. A. Russell, Wyoming, and assigning him to duty at Fort Assiniboine, Montana, is revoked. S. O. 168, A. G. O., July 22, 1887.

CLEARY, P. J. A., Major and Surgeon. Ordered to Fort Assiniboine, Montana, instead of Fort D. A. Russell, Wyoming. S. O. 168, A. G. O., July 22, 1887.

McCLELLAN, ELY, Major and Surgeon. Detailed as member of a board of survey to meet at the Medical Purveying Depot, St. Louis, Mo., on August 1, 1887. S. O. 173, A. G. O., July 28, 1887.

COWDREY, S. G., Captain and Assistant Surgeon. Granted one month's leave, to take effect on or about July 24th. S. O. 79, Department of Texas, July 13, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Sick leave of absence extended three months. S. O. 171, A. G. O., July 26, 1887.

GARDNER, E. F., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Indian Territory. S. O. 170, A. G. O., July 25, 1887.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon at Fort Bliss, Texas, during the absence, on leave, of Captain S. G. Cowdrey, Assistant Surgeon. S. O. 79, Department of Texas, July 13, 1887.

McCAW, W. D., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Riley, Kansas. S. O. 78, Department of the Missouri, July 25, 1887.

SUTHERLAND, CHARLES, Colonel and Surgeon. Leave of absence extended one month. S. O. 174, A. G. O., July 29, 1887.

FRYER, B. E., Major and Surgeon. Relieved from further duty at Fort Lowell, Arizona. S. O. 176, A. G. O., August 1, 1887.

BROWN, HARVEY E., Major and Surgeon. Relieved from duty in the Department of the Missouri, and ordered to Jackson Barracks, Louisiana, for duty at that post. S. O. 174, A. G. O., July 29, 1887.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 2, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending August 6, 1887:*

IRWIN, FAIRFAX, Passed Assistant Surgeon. To inspect unserviceable property at New York Marine Hospital. August 5, 1887.

CARTER, H. R., Passed Assistant Surgeon. Granted leave of absence for six days. August 1, 1887.

BEVAN, A. D., Passed Assistant Surgeon. Granted leave of absence for ten days. August 5, 1887.

NORMAN, SEATON, Assistant Surgeon. Granted leave of absence for four days on account of sickness. August 5, 1887.

Letters to the Editor.

THE DILATATION TREATMENT OF HÆMORRHOIDS.

SOMERSET, KY., *August 2, 1887.*

To the Editor of the New York Medical Journal:

SIR: In the last number of the "New York Medical Journal" I notice an article on the "Treatment of Anal Fissure and Hæmorrhoids by Gradual Dilatation," by Professor O. H. Walker, of Detroit. He says: "Gradual dilatation is not spoken of, as far as I know, by any writer as a means of cure in these cases." If he will turn to the April 23d number of the "New York Medical Journal," he will find a letter from Paris in which Professor Verneuil's treatment of hæmorrhoids by dilatation with the speculum is mentioned. Verneuil's treatment with the speculum is gradual, and he professes to have cured ninety-eight cases in a hundred.

Yours respectfully,
ISAAC S. WARREN, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Continued from page 109.*)

The Anatomy and Physiology of the Recurrent Laryngeal Nerve.—Papers on this subject were read by Dr. FRANKLIN H. HOOPER, of Boston (see pages 29, 63, 99, and 150), and Dr. FRANK DONALDSON, JR., of Baltimore (see pages 146 and 173).

Dr. F. I. KNIGHT, of Boston, said he would take only a few minutes in relating what he had seen of Dr. Hooper's experiments. The results of experiments upon animals must be applied with reserve to man, as the variability of these subsequent experiments of Dr. Donaldson's and Dr. Hooper's would prove. He had seen in Dr. Hooper's experiments the ether effects, which now were generally admitted. In one case there was failure to get the ether effect, which Dr. Hooper attributed to the age and size of the dog. He admitted that it was not quite constant, although he generally got it. At any rate, in that case the speaker had failed to see dilatation from ether narcosis. He had seen the experiment in which the large dose of morphine, forty-five grains, caused dilatation, and other cases in which smaller doses of morphine failed to produce any preliminary dilatation. He had seen cases in which chloral certainly did not produce it, but in one case it caused a mixed movement. In a number of cases he had failed to see preliminary dilatation. Although the operation was done expeditiously there was closure in all these cases. Certainly the fact, as seen by himself and others in Boston, remained, that dilatation appeared to result in Dr. Hooper's experiments only from etherization and profound narcosis from morphine. He did not doubt that Dr. Donaldson got preliminary dilatation as he had stated, but exactly how the difference in results was to be accounted for, he did not know; perhaps by some difference in the method of experimentation.

Dr. S. W. **Langmaid**, of Boston, had seen most of the experiments seen by Dr. Knight, and could corroborate what he had said. He had seen Dr. Hooper try to get Dr. Donaldson's results, but he had not seen what he would like to see Dr. Donaldson himself do. He had seen one experiment, which had interested him very much. In that case a novel procedure was used. The dog was trephined, and a plug was inserted and pressure made upon the cortex. This was the only case in which he had seen what he supposed was described by Dr. Donaldson; there was marked dilatation. He could only state what he had seen, without making deductions, as he was not a physiologist. It seemed that there must be some difference in the manner of experimenting by Dr. Hooper and by Dr. Donaldson to account for the difference in results. The best way, probably, would be for the observers to make their experiments together.

Dr. J. H. **Hartman**, of Baltimore, said that at experiment No. 11, by Dr. Donaldson, he had been present by his kind invitation. Four dogs were used. In one, during the preliminary steps, the dog lost a great deal of blood, and it was evidently too late to get satisfactory results. But in the three other cases Dr. Donaldson got the results portrayed in his chart.

Dr. J. N. **Mackenzie**, of Baltimore, thought it strange that opinions on this subject should be so completely divergent. He could not pretend to criticise the results obtained by either of the experimenters, for he had not sufficiently examined the subject. All he could say was that he had observed one experiment at the Johns Hopkins University by Dr. Donaldson, the dog being under the influence of morphine, and that the movements described by Dr. Donaldson occurred in the most marked manner. Two grammes of morphine were given, he thought. When ether was administered, the movements of the cords were more pronounced.

Dr. M. **Allen Starr**, of New York, speaking by invitation, said he was unable to throw any light on the subject of the physiology of the larynx, but it might be of some interest to mention the fact that, when in Paris, he had witnessed some experiments upon hypnotized subjects by Professor Charcot, and in one instance, when he made slight percussion just below the larynx, there occurred at once adduction of the vocal cords, causing considerable interference with breathing. The case showed that slight mechanical stimulation of the recurrent laryngeal nerve in the human subject would produce adduction of the vocal cords.

Dr. B. F. **Westbrook**, of Brooklyn, said it had occurred to him that perhaps all the factors concerned in this problem had not been taken into consideration by the experimenters. The pneumogastric nerve, as we all knew, was a very complex nerve. According to Professor Milne Marshall, it represented at least eleven nerves. In the human subject it was easy to count as many important branches—those going to the ear, the palate, the pharynx, the larynx, the trachea, the œsophagus, the stomach, the liver, the lungs, and the intestines. In the motor branches going to the larynx there was this distinction, which, so far as he had observed, the readers of the papers had failed to bring out—namely, that the sphincters of the larynx which guarded the entrance to the lower respiratory tract during the swallowing of food were under peripheral control, whereas the abductors acted, not through reflexes from the larynx itself, but automatically through the influence of a center in the medulla oblongata. The one was under peripheral influence, the other under central influence. The peripheral mechanism was of very great importance, because it prevented us from being choked by the entrance of food into the air-passages. But the central apparatus was of still greater importance, because, as Dr. Hooper had once said, it stood as a sentinel to keep the glottis open to allow the air to pass into the lungs, and oxygen into the blood, throughout the entire life of the individual. As the speaker understood it, the partial closure of the glottis during expiration was not active, or was so only to a very slight extent; whereas the opening of the glottis during inspiration was an active process, and its great importance was shown by the fact that the vast majority of all the animal kingdom died with the glottis open.

Dr. **Donaldson** said that, after all this discussion, he thought he might be excused for saying that all the points he had made last year still stood, and the "inaccuracies" of his paper had not been proved. Dr. Hooper had said a deal about the ether effect in his present paper, which no one for a moment denied, but not one word about the rôle which, last year, he had maintained that consciousness played in laryngeal innervation. Again, in the April number of the "American Journal of the Medical Sciences," he had positively denied the speaker's statement that abduction could be obtained without ether. In his present paper he admitted that he did get abduction under morphine, and in one case (seen, too, by Dr. Langmaid) he had obtained abduction in a dog which had not been given any narcotic. Moreover, Dr. Knight had admitted that he, too, had seen dilatation without ether. Dr. Solis-Cohen had also informed the speaker that he had seen dilatation without ether in Dr. Hooper's laboratory. Again, in the paper just read, the latter had said that closure on stimulation was "not universally the case," which was a positive contradiction of his statement in Dr. Bowditch's late paper. The truth was, that the results of any given number of Dr. Hooper's experiments differed very widely. In the speaker's experiments, on the other hand, there had never been any variation from first to last, weak stimuli invariably producing abduction—strong, adduction. This fact, he maintained, had been established beyond doubt in his experiments of this year and of last year; the fact that Dr. Hooper could not obtain exactly the same results proved nothing; it was purely negative, and did not affect the physiological facts announced. He therefore thought that the statements made in what Dr. Hooper had been pleased to call his inaccurate paper might be considered as entirely confirmed.

The speaker, on being reminded by the secretary that important differences existed in his paper as read before the association last year and as it appeared in the volume of "Transactions," several changes having been made in the article itself, and several addenda supplied to it, said that after reading his paper last year, and before publishing it in the "Transactions," he had not revised it, but had eradicated the two sentences quoted from Dr. Hooper's paper.

Dr. Hooper thought that, when Dr. Donaldson came to read his (Dr. Hooper's) paper in print, some points might appear a little clearer to him. With regard to his own remarks concerning Dr. Donaldson's paper last year, to which Dr. Donaldson had taken such exception, and to which it seemed to him he had gone considerably out of his way to again refer, he was forced to remind him that, when he said his paper contained statements which were inaccurate, he referred to the manner in which he misrepresented and misquoted his (Dr. Hooper's) paper on "The Respiratory Function of the Human Larynx." His confusion was due to the speaker's failure to make his meaning clear to him. It was evident from his original paper in the "American Journal of the Medical Sciences" that he had misconceived the import and the significance of the speaker's experiments. He had not meant to imply that Dr. Donaldson's statement that feeble stimuli produced abduction of the vocal bands was inaccurate, although he had never been able to observe such an effect himself unless ether had been administered to the dog. He had stated last year that what he said in regard to the consciousness of the animal playing a part in the "ether effect" was merely a passing thought, yet the reader still dwelt upon it as if it were of some importance. He regretted that he had not used the word "narcosis" instead of "consciousness," as it would have expressed what he had in mind more clearly, and would have spared Dr. Donaldson, perhaps, some annoyance and unnecessary labor. When the "ether effect" was first observed, Professor Bowditch told him that he wished to make the observation the starting-point of a study of the action of sulphuric ether upon the peripheral nervous system. In their paper, published two years ago, they had merely recorded the fact, leaving its elaboration for future study. Now the statement of Dr. Donaldson that feeble stimuli applied to the recurrent nerves of unnarcotized dogs produced dilatation of the glottis was the point which needed confirmation. They (Dr. Hooper and Dr. Bowditch) had hoped to get this effect, and had tried their best to get it, in order to confirm Professor Bowditch's observations on the sciatic nerve of the frog (see "Amer. Jour. of the Med. Sci.," April, 1887), but they had failed to do so. They had recently devoted seven dogs to this study, according to the method they understood was Dr. Donaldson's, namely, observing the glottis from below through a window cut in the trachea. Three dogs were stunned and then pithed, two were pithed, one was unpithed and unnarcotized. In all of these animals their usual results were observed, namely, first a vibratory movement of the vocal bands and then a closure. The seventh dog, a very muscular animal, was kept quiet by cerebral compression, according to Professor Dalton's method. This experiment was performed two days ago, and in this dog they had observed perfect dilatation with feeble stimuli. This method introduced a new element, but this was the only instance where they had been able to call forth a dilatation on unnarcotized dogs. They were inclined to regard it, therefore, as the very rare exception. Dr. Edward Martin, of Philadelphia, had sent the speaker tracings this morning which showed, as would be seen, that his results accorded with theirs as regarded the stimulation of the recurrent laryngeal nerves.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 23, 1887.

The President, Dr. T. Mitchell Prudden, in the Chair.

Extreme Cirrhosis of the Liver; Chronic Phthisis.—The President presented specimens from a woman addicted to alcohol, who had suffered with symptoms of cirrhosis of the liver—ascites, general dropsy, etc. At the autopsy, two sets of well-marked lesions were found—advanced cirrhosis of the liver and chronic miliary tuberculosis of the lungs. There were also tubercular ulcers in the intestines and changes in the kidneys.

Small Multiple Adenomata of the Kidneys.—Further specimens presented by the President were from the body of a man who died from an injury. The kidneys were the seat of multiple adenomata, which were not very common; they occurred in both kidneys, which, again, was not very common; they were sharply circumscribed, of different sizes; some were brown and some white, the difference in color being due to the deposit of pigment in the brown ones. They illustrated the two forms in which adenomata occurred, the alveolar and the papillomatous.

Pneumonia and Pleurisy of Septic Origin in an Infant.—Dr. J. Lewis Smith presented specimens illustrating these conditions.

Removal of the Uterine Appendages.—Dr. Jones presented several ovaries and Fallopian tubes removed for disease and severe symptoms. The histories of several of the cases were read, together with remarks upon the title of the operation.

Bullet-wound of the Liver.—Dr. Jackson presented a liver illustrating a pistol-shot wound. A man had attempted suicide and the ball entered the abdomen three quarters of an inch below the ensiform cartilage and half an inch to the left of the median line. The effect of the wound was not so severe but that the patient could rise from the floor and walk to his bed. In the afternoon Dr. Sands introduced a probe four inches and three quarters, and felt the ball beneath the skin below the scapula on the right side. As there were no symptoms pointing directly to injury of the stomach or other hollow viscera, the question of laparotomy was left to be decided by the family. The family did not want it, and the operation was deferred. The temperature did not rise to any extent. There was only a slight hacking cough, with expectoration of some bloody mucus twice. For three or four days following the injury there were physical signs of consolidation of the lung over a very limited space where the bullet had been felt. Subsequently mental symptoms occurred, and the patient tried to jump out of the window, and during the last five days of his life (about a month after the injury) he lay comatose. The autopsy showed no evidence of escape of blood into the peritoneal cavity, and there was no general peritonitis. There were a few light adhesions at the entrance of the ball. It had traversed the left lobe of the liver and passed through the diaphragm and the posterior mediastinum. The injury seemed to bear no direct relation to the fatal illness. There were spots of broncho-pneumonia in both lungs

Complications following Laparotomy.—Dr. Dudley reported further on the case of hysterectomy which he had mentioned at the preceding meeting. The patient had done very well until the sixth day, and that was one reason why he had not caused the bowels to move sooner. When an attempt was made to move the bowels, severe symptoms developed, and it was with difficulty that her life was saved. She was now, however, doing well. He thought it was a mistake to keep the bowels confined for so long a time. In a previous case the patient had done well until about the seventh day, when the bowels were moved and death followed. The autopsy showed rupture of an abscess beneath the stomach, which had developed in the folds of the omentum, the latter not having been spread out at the time of the operation. This complication showed the danger of neglecting to carefully examine and replace the omentum in its normal position before closing the peritonæum.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of March 28, 1887.

The President, Dr. Laurence Johnson, in the Chair.

Removal of Solid Uterine and Ovarian Tumors by Laparotomy.—Dr. Matthew D. Mann, of Buffalo, read a paper on this subject. The cases had not been selected, but constituted his whole experience. They embraced three solid tumors of the ovary, four pedunculated fibroids of the uterus, and two fibroid enlargements of the uterus of a sort to require its removal. The body of the uterus was removed in one other case also. Of the ovarian tumors, the first was an adeno-cystoma, the second undoubtedly a solid fibroid, and the third a sarcoma. In the second case it was thought during the operation that the tumor was uterine rather than ovarian, and the pedicle was treated by the external method, the clamp being used. Sloughing and hæmorrhage took place, after which supra-vaginal hysterectomy was performed, but the patient died of septicæmia. Had the tumor been recognized in the first place as being ovarian rather than uterine, he would probably have tied the pedicle and dropped it. The fourth case proved to be one of fibro-myoma of the uterus. Before the operation the diagnosis lay between a fibroid of the uterus and a solid ovarian tumor. There were adhesions; the pedicle was short, thick, and very vascular. It was treated by the external method, with the clamp. During the operation fluid suddenly entered the peritoneal cavity, and proved to be from a rent which took place in the rectum. The nurse had given an enema before the operation, which had not come away; hence the accident. The patient, however, made a good recovery. In the fifth case an enlargement of the abdomen had been noticed three years before the operation. The whole abdominal cavity seemed to be occupied by the tumor. There was a sensation like ballottement. The tumor was a myoma attached to the fundus by a short, small pedicle. The tumor was divided before it was removed. He had intended to treat the pedicle by the external method, but, unfortunately, he said, he changed his mind, and tied and dropped it. The surface was cauterized. The tumor was a soft myoma. In the evening the patient passed into a state of collapse. The abdomen was reopened, and it was found that the silk ligature had slipped off entirely, allowing hæmorrhage. A clamp was now applied, and the patient finally recovered. During her low state an enema of hot water was given, which had a decidedly beneficial effect on the kidneys and the general condition. The sixth case was one of large fibroid, involving the whole body of the uterus, giving rise to painful symptoms. Supra-vaginal hysterectomy was performed, the clamp was employed, and the patient recovered from the operation, and from symptoms which had before rendered life a burden. The seventh case was one of myomatous enlargement of the body of the uterus, œdematous, and weighing five pounds. The operation resulted in recovery. The eighth case was one of fibro-cystic general enlargement of the body of the uterus. Not long before the operation the woman had become pregnant, and her physician, recognizing the presence of the tumor, brought on an abortion at about the seventh month. At the operation some of the contained fluid escaped into the peritoneal cavity, but the latter was thoroughly cleansed. The clamp was applied. The patient recovered.

In his remarks, Dr. Mann said that most of the medical profession believed that solid tumors of the uterus and of the ovaries were beyond surgical help unless, in the case of the former, they presented at the os. But, according to his experience and observation, removal of these tumors was not more dangerous than that of cysts. The diagnosis of solid tumors was more difficult than that of cysts. Exploratory incision was in many cases less dangerous than doing nothing. As to the diagnosis of adhesions, the length of the pedicle, and attachment to other organs, it amounted to no more than a guess until after the abdomen was opened. Regarding the indications for an operation in these cases, he quoted with approval Keith's conclusions on this subject, adding thereto two or three other indications. One was that fibroids, no matter what their size if they were wearing out the patient, should be removed. A second indication, calling for supravaginal hysterectomy, was the presence of septic poisoning from a sloughing intra-uterine fibroid the enucleation of which would only add to the danger by affording new avenues for absorption. In only one of his five cases could removal of the uterine appendages instead of removal of the uterus have been seriously considered, and in this case it was a question whether it would have had any effect upon the tumor. He could not but consider that some share of his success was due to the use of Wilson's clamp. He observed strict antisepsis, and among the first means in the list he placed the nail-brush and soap. He suggested that the discussion be confined to: 1, the advisability of re-opening the abdomen for hæmorrhage into the peritoneal cavity; 2, removal of the uterus for fibro-myoma; 3, the treatment of the pedicle.

Dr. C. C. Lee agreed with the author on the main points made. He would not give the operation of hysterectomy or other methods for the removal of fibroids of the uterus so wide a latitude as the author. Where there was any chance of arresting the nutrition of the tumor by removal of the uterine appendages in young women, he would always employ that method, for if a fibroid tumor were removed, others unseen might be present or develop subsequently. While Keith had said exactly what Dr. Mann had attributed to him, yet in his prefatory remarks he had stated that removal of uterine fibroids could never be so promising a procedure as oophorectomy, because the conditions were so different. The speaker had never had occasion to regret opening the abdomen to check hæmorrhage.

Dr. James B. Hunter said, with regard to the treatment of the pedicle of solid tumors, that he was strongly in favor of the plan advocated by Dr. Mann, viz., the external. He preferred the elastic ligature. Dr. Mann had been fortunate in seeing so many solid tumors. The speaker had diagnosticated and removed a solid tumor of the ovary within a year, the patient making a good recovery. He thought Dr. Mann should not have removed the clamp so soon, at least in some of the cases.

Dr. W. Gill Wylie thought there could be no question of the propriety of re-opening the abdominal cavity in suspected hæmorrhage; and he suggested that, when hæmorrhage was feared, a drainage-tube be introduced and carefully watched. He had resorted to this precaution in one case, but the assistant did not examine the tube often enough, and before the hæmorrhage was discovered the patient was nearly in collapse. The vessel was tied and the patient recovered. He thought with Dr. Mann that it was risky to tie the pedicle of a muscular tumor. As to the indications for removal of solid tumors, definite rules could not be made. For instance, in one case he had found salpingitis complicating the fibroid of the uterus, and it would be difficult to say which condition was the chief cause of the woman's sufferings, and which should be removed. He would not hesitate to operate for a solid tumor any more than to operate for a cyst, if the symptoms demanded it. He preferred the *serre-nœud* to the elastic ligature and other measures. Instead of loosening it on the eighth or ninth day, he tightened it until it had gradually cut off the pedicle.

Dr. P. F. Mundé had operated in only two cases of solid tumor of the uterus, one being a fibroid weighing seventeen pounds, the other a myoma. In the first case the operation was performed because the patient had become addicted to opium for the relief of pain. The pedicle dropped off on the sixteenth day. In the second case separation of the adhesions led to rupture of the mesentery and intestine, and secondary hæmorrhage took place twenty-four or thirty-six hours after the operation. The abdomen was re-opened and the hæmorrhage arrested, but the patient died of exhaustion in spite of the injection of a saline solution. As to the diagnosis in cases of myoma, it was not easy, but a myoma could be distinguished from an ovarian cyst by the thick abdominal walls; in cysts of the ovary of rapid development the walls were thin. We need not be in haste to operate for myomata of the uterus. Dr. Sims had recommended an operation in one case some years ago, but the patient refused, and was to-day in good health. He had met with several cases of solid ovarian tumors, but had not operated.

Dr. Mann said that, when he had removed the clamp on the eighth or ninth day, he had substituted for it an elastic ligature. He doubted whether Dr. Mundé's suggestion as to differential diagnosis would hold.

Book Notices.

A Theoretical and Practical Treatise on Astigmatism. By Swan M. Burnett, M. D., Professor of Ophthalmology and Otology in the University of Georgetown, etc. With Fifty-nine Diagrams and Illustrations. St. Louis: J. H. Chambers & Co., 1887. Pp. viii–245.

Dr. Burnett's book is in itself the best answer to the demand for its *raison d'être*. It is well written, clearly expressed, and illustrated by a large number of original designs. The work consists of thirteen chapters. The first two chapters give a general *résumé* of the fundamental laws of optics, refraction by spherical surfaces, by ellipses, spheroids, and ellipsoids, the formation of images by convex refracting surfaces, and the character of focal lines. The fourth chapter treats of astigmatism in the human eye; the different forms of ametropia and the varieties of astigmatism. Then follows a very clear and satisfactory description of the various methods and tests employed in the diagnosis of astigmatism, in which due consideration is given to the difficulties and obstacles in the way of an accurate diagnosis. Under the head of "spasm of the ciliary muscle," we do not think the author lays enough stress upon the necessity of using atropine in the young, for the purpose of completely paralyzing the ciliary muscle before fitting the patient with glasses. We believe that hypermetropia is often masked by excessive tonicity of the ciliary muscle. A brief description is given of Javal's astigmometer and the manner in which it is to be employed. In Chapter VII there is a very satisfactory account of the ophthalmoscopic methods of diagnosticating astigmatism. The eighth chapter is devoted to a description of the "shadow test" or skiascopy, in which Dr. Burnett gives this method due recognition as one of the means of diagnosis, but takes occasion to say that "it is more consumptive of time than the ordinary ophthalmoscopic methods." The ninth chapter is devoted to a much too brief discussion of the subjects of keratometry and keratoscopy. There is a very clear description of Javal and Schiötz's ophthalmometer, and of its practical use in examining patients. Mention is also made of Placido's keratoscope and Wecker's squares. We are glad to see, however, that the author says that "no one method should be relied upon exclusively, and no diagnosis of astigmatism should be considered as fixed until it has been verified by an examination with cylindrical glasses and test-types. Chapter XI, on the causes of astigmatism, though much too brief, is one of the best in the book. The twelfth chapter, on the correction of astigmatism, is thoroughly practical, but is much too short, and does not consider in sufficient detail the examination and treatment of the different varieties of astigmatism. The final chapter is on irregular astigmatism and conical cornea. The appendix contains a statistical record of eight hundred and six astigmatic eyes in which the examinations were made by the author.

A Practical Treatise on Diseases of the Eye. By Dr. Édouard Meyer, Professeur l'école pratique de la Faculté de Médecine de Paris, etc. Translated, with the assistance of the Author, from the Third French Edition, with additions, as contained in the Fourth German Edition, by Freeland Fergus, M. B., Ophthalmic Surgeon, Glasgow Royal Infirmary; Assistant Surgeon, Glasgow Eye Infirmary. With Two Hundred and Sixty-seven Illustrations and Three Colored Plates. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xi–17 to 647. [Price, $4.50.]

This is the first edition in the English language of Dr. Meyer's well-known work, which has already passed through three French and four German editions, and has been translated into Italian, Spanish, Polish, Russian, and even Japanese. It is a thoroughly practical work, written with great clearness, and is therefore well adapted for use among students. The author, like many of the older writers, has a great belief in the efficacy of drugs, as may be readily seen by glancing at any of the paragraphs on the treatment of disease. Some of the descriptions of disease are very concise as well as clear, notably that of diphtheritic conjunctivitis and its treatment, which is as admirable as anything we have seen on the subject. We think the author errs in regarding amyloid degeneration of the conjunctiva as presenting certain resemblances to granulations, for neither clinically nor pathologically is this true. The author's conservatism leaves him not infrequently at issue with other modern writers, as for instance in the treatment of corneal abscess. No mention is here made of the employment of the galvano-cautery, which is now in common use in this disease. Again, he makes but the briefest mention of the modernized simple extraction of cataract without iridectomy, which is performed by many ophthalmic surgeons, both in France and elsewhere. The subject of antisepsis in ophthalmic surgery is not discussed with the breadth which the surgeons of the present day are accustomed to, especially in Germany and the United States. Dr. Meyer still believes in the existence of that form of amblyopia often met with in strabismus, and called "amblyopia ex anopsia." The two best chapters in the book are the eleventh, on the anatomy, physiology, and anomalies of the muscles of the eye, and the twelfth, on diseases of the eyelids, which are extremely clear and well illustrated. The translator has done his work well, but we are sorry to see that he still retains in use the barbarous term "corneitis," to express inflammation of the cornea, instead of keratitis, which is much more correct, and moreover is employed and understood the world over. As previously stated, this work is well adapted for the use of the student or the general practitioner, but it will not satisfy the critical mind of the ophthalmic surgeon who wishes to keep abreast with all the recent advances.

Handbuch der physiologischen Optik. Von H. von Helmholtz. Zweite umgearbeitete Auflage. Mit zahlreichen in den Text eingedruckten Holzschnitten. Vierte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 241 to 320.

The fourth part of the new edition of von Helmholtz's great work on physiological optics shows the same careful revision of the text which was so evident in the first three parts. The subject of visual impressions is continued in this number, and is carried as far as the subject of compound or composite colors. There is much new matter upon the changes which are produced in the retina by the stimulus of light, eight new pages having been introduced into this section. The entire section on the prismatic refraction of light has been re-written. This fourth part carries the reader through about one third of the entire book, and the remaining fasciculi will be looked for with great interest by those interested in the subject.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of various Nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Wood-cuts. In six volumes. Vol. VI. New York: William Wood & Co., 1886. Pp. xlviii–1272.

The first volume of this great work made its appearance in 1881. It is very much to the editor's credit that he has succeeded in completing it within a period comparatively so brief, especially when it is considered that the fact of a number of the contributors residing in foreign countries, and in some instances thinking if not writing in another language than that in which they were to appear in print, must have added notably to the ordinary difficulties encountered by editors.

The sixth volume opens with an article of 44 pages, by Dr. J. Solis-Cohen, on Injuries and Diseases of the Œsophagus. The subject is handled with the author's habitual thoroughness and carefulness, and can not fail to prove of great value to the reader. The next article, on Intestinal Obstruction, is by the editor, whose fitness to write on this theme is well known to the profession. An English contributor, Mr. William Allingham, follows with an article on Injuries and Diseases of the Rectum. Mr. Allingham states that he now generally employs Mr. Pollock's crushing operation for hæmorrhoids, but that he still prefers the ligature in cases where the hæmorrhoids form a continuous ring with no division into lobes. The treatment by injections of carbolic acid and other substances into the body of the hæmorrhoid is simply mentioned.

Next comes an elaborate and most excellent article on Urinary Calculus, by Dr. E. L. Keyes, supplemented by one on Lithotrity, by Dr. W. H. Hingston. Dr. Keyes's article is copiously and effectively illustrated, and the colored lithographic plate which accompanies it is excellent. To a certain extent, Dr. Keyes and Dr. Hingston necessarily go over the same ground, but from this there can be nothing but advantage to the reader. Mr. Reginald Harrison follows with an article on Injuries and Diseases of the Bladder and Prostate, with an appendix on Prostatotomy and on Rupture of the Prostate and Bladder. Injuries and Diseases of the Urethra are treated by Dr. Simon Duplay, whose article is translated by Dr. C. W. Dulles. Many of the illustrations are taken from Voillemier's well-known work. The next article, on Injuries and Diseases of the Male Genital Organs, is by Mr. H. Royes Bell. Mr. Bell's article is comprehensive and judicious. It is illustrated with two handsome colored drawings. It is followed by Dr. Theophilus Parvin's article on Injuries and Diseases of the Female Genitals, written in that author's habitual scholarly manner. Dr. Robert P. Harris, who may be termed the American apostle of the Cæsarean operation, contributes the next article, entitled The Cæsarean Section and its Substitutes: Laparotomy for Ruptured Uterus and for Extra-uterine Fœtation. Although short, it represents the mature thought of one who has been indefatigable in the study of the subject, and it is therefore of great value. The remaining articles are on Ovarian and Uterine Tumors, by Dr. Charles Carroll Lee, of New York; Inflammatory Affections of the Bones, by Dr. L. Ollier, of Lyons, translated by Dr. C. W. Dulles, of Philadelphia; Scrofulo-tuberculous and other Structural Diseases of Bones, by Dr. Eugène Vincent, of Lyons, also translated by Dr. Dulles; Tumors of the Bones, by Dr. A. Poncet, of Lyons, likewise translated by Dr. Dulles; and Orthopædic Surgery, by Mr. F. R. Fisher, of London. The work closes with an appendix embracing an article on the Construction and Organization of Hospitals, by Dr. Edward Cowles, of Somerville, Mass.; one on the Preparation of Military Surgeons for Field Duties, etc., by Dr. B. A. Clements, of the army; and one on the History of Surgery, by Dr. George J. Fischer, of Sing Sing, N. Y.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

A. Delahaye & E. Lecrosnier, Paris.—G. Norstrom, "Traitement des raideurs (fausses ankyloses) au moyen de la rectification forcée et du massage." (3*fr.* 50.) —— L. Thomas, "La migraine." (2*fr.*)

A. Manceaux, Brussels.—Francotte, "La microphotographie appliquée à l'histologie," etc. (2*fr.*) —— Braune and His, "Manuel de dissection." Transl. by G. Foettinger. (2*fr.*) —— W. Krause, "Manuel d'anatomie humaine." Transl. by L. Dollo. Part I. (5*fr.*)

E. Detken, Naples.—W. A. Hammond, "Trattato delle malattie del sistema nervoso." Transl. by A. Rubino. (22*l.*) —— Camuset and Albini, "Manuale di oftalmologia." 2d ed. (16*l.*) —— E. Fazio, "Trattato d'igiene (atavismo e mesologia)." (24*l.*) —— G. F. Malgaigne, "Manuale di medicina operatoria." Ed. by L. Le Fort. 8th ed. (17*l.*)

V. Pasquale, Naples.—Roncati, "Compendio d'igiene." 2d ed. (15*l.*) —— Ziino, "Compendio di medicina legale." 2d ed. (15*l.*)

Fratelli Rechiedei, Milan.—F. Orsi, "Lezioni di patologia e terapia speciale medica." 2d ed. (12*l.*)

F. Vallardi, Rome.—P. Tillaux, "Trattato di anatomia topogiafica colle applicazioni alla chirurgia." Ed. by G. Zuccheri-Tosio and L. Tenchini. 2d ed. (30*l.*) —— C. D. Miliotti, "Della tabe dorsale." (5*l.*)

Dirección-Administración de la "Revista de Medicina y Cirugía Prácticas," Madrid.—D. A. Luton, "Estudios de Terapéutica General y Especial." Transl. by D. M. Sitjar; notes by D. N. Carbó de Aloy (9 *pes.*) —— A. Ferrand, "Tratado de Terapéutica Médica." Transl. by P. Espina y Martinez and A. Espina y Capo; introd. by F. Javier de Castro. (52 *real.*) —— E. Leyden, "Tratado Clínico de las Enfermedades de la Médula Espinal." Transl. by M. Carreras Sanchis. (18 *pes.*)

BOOKS AND PAMPHLETS RECEIVED.

The Results of Vaccination and the Inequity and Injustice of its Enforcement. An Address delivered at the Town Hall, Holborn, London, May 11, 1887, and now Published with Notes and Appendix. By William Tebb, President of the London Society for the Abolition of Compulsory Vaccination. London: E. W. Allen, 1887. Pp. vi–7 to 37. [Price, 6*d.*]

Infant Foods and Infant Feeding. By Prof. Edgar Everhart, A. M., Ph. D., Professor of Chemistry, University of Texas. Read before the Texas State Geological and Scientific Association, Tuesday, May 17, 1887.

On a New Craniophore for Use in making Composite Photographs of Skulls. By John S. Billings and Washington Matthews. National Academy of Sciences. Vol. III. Fourteenth Memoir.

"Renal Colic, Parasitic and Calculous." A Criticism. By J. B. Marvin, M. D., Professor of Theory and Practice of Medicine and Clinical Medicine in the Kentucky School of Medicine. [Reprinted from the "Southwestern Medical Gazette."]

Three Lectures delivered at the Hospital for Sick Children, Great Ormond Street, 1886. By Robert J. Lee, M. D., F. R. C. P. Lectures I and II: On the Transmission of Syphilis; with Cases arranged to illustrate the Relations between the various Symptoms of Hereditary Syphilis in Children and the Parental History. Lecture III: On the Earliest Record of Whooping-cough. London: Baillière, Tindall, & Cox, 1886. [Price, 1*s.*]

Clinical Lecture on the Possibility of Syphilitic Infection by Vaccination. By Robert J. Lee, M. D., F. R. C. P., etc. Delivered at the Hospital for Sick Children, London. [Reprinted from the "Medical Press and Circular."]

Address in State Medicine. Recent Advances in Preventive Medicine. By George H. Rohé, M. D., of Baltimore, M. D. [Reprinted from the "Journal of the American Medical Association."]

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Hyperplasia of the Caruncula Lacrimalis.—Bock ("Kl. Mon. f. Aug.") reports the case of a law-student, aged twenty-three, who for three years had a tumor of the caruncle of the left eye. At first the tumor did not increase in size or change in appearance, but after about eighteen months it grew very rapidly, and then presented the appearance of a pale-red mass, as large as a pea, with a smooth, glistening surface. It was clearly defined, freely movable, and of firm consistence. It was easily removed under cocaine, and examined under the microscope. It consisted in the main of dense bundles of connective tissue, with numerous nuclei. Portions of the growth showed a looser texture, and here were imbedded numerous fat globules. There were a large number of elastic fibers running all through the tumor. There were numerous large vessels and medullary nerve-fibers, and some strands of smooth muscular fibers. The entire growth was covered by an epithelial layer, and beneath this there were developed papillæ, which were filled with small cells. There were also found remains of small hæmorrhages of old and recent dates. There were numerous sebaceous glands, and some fine hairs. The whole presented a well-marked example of hyperplasia of the caruncle.

Bilateral Amaurosis caused by Chronic Meningitis at the Base of the Brain.—Panas ("Rec. d'ophthal.") reports the case of a young man who became blind in both eyes within four days. The pupils were dilated and immovable, and there was slight divergence of the left eye. The patient had been subject from childhood to frequent headaches, and a short time before he became blind he had been troubled with nausea and vomiting. The parents were in good health, but six brothers of the patient had died at an early age, some of them from meningitis. In the left eye there was marked "choked disc," while in the right eye there was merely hyperæmia of the optic disc, without œdema. Clinical observations and autopsies have taught that, in the majority of cases, if the amaurosis is accompanied by papillary œdema, the lesion is situated in the vicinity of the optic chiasm. As the amaurosis in this case was not accompanied by paralysis of any other cranial nerve, and as the patient had suffered from head symptoms for many years, the lesion was probably a meningitis at the base, either a chronic pachymeningitis, with fibrinous exudation, or a tuberculous meningitis of slow progress. The latter is the more probable in this case.

Diphtheria of the Conjunctiva.—Alt ("Am. Jour. of Ophthal.") reports nine cases of sporadic conjunctival diphtheria, observed at a time when faucial diphtheria was very prevalent in St. Louis. In one case the eyes had been for months exposed to the vapors of bromine, while in another case an operation had been performed, and was followed by the infection. In the cases which came under his observation when the diphtheritic membrane was still limited, or during its development, he treated the lids with silver nitrate, thinking that the coagulation of the albuminous masses would act virtually as an antiseptic, and the results were in the main satisfactory. The quickest and best results were obtained by keeping up a continued antisepsis by instillations of corrosive sublimate and boric acid.

Tuberculosis of the Conjunctiva.—Stölting ("Arch. f. Ophthal.") reports in detail three cases of tuberculosis of the conjunctiva. The first case was that of a girl, aged nine, who had had diseased eyes for three years, with swollen cervical glands and a cough. There was a large tuberculous mass under the right upper lid, with enormous conjunctival granulations and corneal pannus. All the lymphatic glands of the face and neck were hypertrophied, and there were catarrhal sounds at the apex of the right lung. The tuberculous masses were excised, and their sites cauterized with lunar caustic. The bacilli were found in the masses removed. There was no return of the disease for a year and a half. The second case occurred in a young woman, aged twenty, who had had an ulcer on the right cheek for a year. There were in both eyes chronic catarrh of the conjunctiva, dacryocystitis with granulations in the lacrymal sac, and a typical tuberculous ulcer on the right cheek, with undermined edges and a brawny base. Eight months later, there had developed in the conjunctiva of the left upper lid a nodular infiltration, which reached to the *cul-de-sac*, and an hypertrophy of the left pre-auricular gland. Three months later this nodule had become a large brawny ulcer, and there was a similar tuberculous ulcer in the conjunctiva of the right eye. All these diseased tissues were again excised; but, in spite of this, there was a return of the trouble eight months later in both eyes, and to a greater extent. The infiltrated masses were again removed, and their bases thoroughly cauterized with Paquelin's cautery. Three months later the trouble returned in the upper lid of the left eye; but there was no return in the left lower lid nor in the right upper lid. The diseased tissues were again entirely removed, and the entire base was cauterized with Dröll's thermo-cautery, and this was repeated twice within the next three weeks. The third case occurred in a young man, aged sixteen, whose left eye had been inflamed for a year. The patient's mother had died of lung disease, and he was the only living child of his parents. He himself had spent six weeks in a hospital with some pulmonary affection. On the lower lid of the left eye there was a nodular growth, which occupied about two-thirds of the lid, and had an ulcerated surface. The pre-auricular gland was enlarged. At the inner end of the left upper lid there was a smaller similar growth. Bacilli were found in both, and from them two rabbits were inoculated, as was done in the second case. This case was treated by complete excision and thorough cauterization, and there was no return after a year had passed.

The Pathogenesis of Serous Cysts of the Orbit.—Panas ("Arch. d'ophthal.") considers it established: 1. That these cysts are, without exception, congenital. 2. That they show a preference for the situations which are in relation with the branchial fissures of the embryo. 3. That their contents may vary, without their dermal origin being at all doubtful. He reports an additional case occurring in a young girl, aged twelve years, who, at the age of five years, presented a swelling beneath the left lower lid, which remained stationary until the eleventh year of the patient's age, after which time it steadily increased in size. When examined, the swelling was noticed in the inner half of the lid, was soft, fluctuating, and rounded, and could be pushed back somewhat into the orbit. The movements of adduction and depression were somewhat limited, and there was slight crossed diplopia. The cyst was removed through a horizontal incision parallel to the lower margin of the orbit. The tumor was formed of two pockets—an anterior, subpalpebral portion, filled with a brownish viscous liquid, and a small transparent cyst, filled with a clear fluid. Between the two cysts there was a fibrous mass, which was adherent to the lower surface of the tumors, and extended indefinitely into the orbit. The microscopic examination showed that the tumor was bi-lobate, and consisted of a membranous tegument containing acneous muciparous glands, and was produced by a fœtal incarceration of the mucous membrane of the nasal fossæ and sinuses.

Exophthalmia and Diplopia in Consequence of Empyema of the Sinus Frontalis.—Magnus ("Kl. Mon. f. Aug.") reports a case of this nature, occurring in a woman, aged sixty-three. There was an elastic swelling at the upper and inner angle of the orbit on the right side, which extended far into the orbit, but did not project much beyond the orbital margin. There was no irritation of the lids or conjunctiva, and the motility and vision of the eye were normal. At times there was marked increase of the secretion from the right nostril. One month later the skin over the tumor became red and swollen, and after the use of hot applications fluctuation appeared and a small quantity of thin pus was let out. The inflammatory symptoms then rapidly subsided. Six months later the eye began to protrude downward, forward, and outward, the exophthalmia rapidly increased, and the tumor itself became more prominent. A puncture of the latter let out a quantity of thin pus, and a diagnosis was then made of empyema of the frontal sinus. The mobility of the eye was much interfered with, but the vision and the fundus remained normal. An operation was then decided upon, and it consisted in chiseling away a portion of the anterior wall of the sinus until an opening as large as a mark-piece was made. About 60 grammes of pure pus were removed, and the finger could then be passed for about 7 ctm. directly backward. The thickened mucous membrane of the sinus was scraped away, and the cavity cleansed with carbolic acid. It was then tamponed with iodoform gauze. The diplopia ceased in three days, and the exophthalmia rapidly subsided, but the wound did not entirely close for about nine months.

Infectious Panophthalmitis of Microbial Origin, and its Analogy with Infectious Osteomyelitis.—Gayet ("Arch. d'ophthal.") reports an interesting case occurring in a young girl, aged eighteen, who was brought to the hospital on December 8, 1886, with symptoms of grave typhoid fever. She had an acute and violent inflammation of the left eye, which had appeared about the same time with the febrile symptoms. It was subsequently decided that all the symptoms arose from the panophthalmitis, and that the patient had not typhoid fever. The eyeball finally ruptured in the equatorial region above, and the general febrile symptoms slowly subsided. The patient was the daughter of parents in good circumstances, and had been in good health. In August, 1886, she lost the left upper canine tooth without either pain or suppuration, but some time after the tooth fell out an acute pain set in at the vacant cavity in the jaw and extended toward the left eye. Then there appeared a swelling in the upper jaw on the same side, and vision became affected and was finally lost. On December 1, 1886, while menstruating, the patient took a walk in the morning and was seized with a decided chill; the menses stopped, and she was attacked with severe pain in the back and abdomen. That same evening the pain became very severe in the left eye, and panophthalmitis at once developed and was followed by the signs of grave general disturbance. The enucleated eye was found to contain the *Staphylococcus aureus*, which on being cultivated and inoculated in the eye of a rabbit, produced panophthalmitis and death within twelve hours.

Retinitis Pigmentosa with some Interesting Anomalies.—Darier ("Arch. d'ophthal.") reports a number of anomalous cases of retinitis pigmentosa occurring in several families. In none of these cases could consanguinity between parents be assigned as a cause. Among hereditary antecedents were the following: One father had hemeralopia; one mother had defective vision; a grandfather was blind at the age of thirty; a grandfather was blind in one eye; and an uncle had congenital coloboma of the iris. Only one of the patients examined had had children and grandchildren all free from hemeralopia. The six patients examined belonged to five different families, all consisting of five or six children, one third of whom had hemeralopia. Among thirty-five children there were eleven hemeralopes, and two polydactylic children who died too young to admit of any knowledge as to the existence of retinitis pigmentosa. In all the patients the disease began in childhood, and in only one case was hemeralopia absent. In three cases there was typical pigmentary degeneration of the retina; in two cases there was no pigmentary degeneration at all; and in one case there were a very few stellate patches of pigmentation. All but one patient had good central vision by daylight, within a very narrow field.

Primary Tumor of the Optic Nerve.—Tillaux ("Rec. d'ophthal.") reports a case of this kind in a man, aged forty-one. Eighteen months before, he had begun to suffer severe pain in the left orbit, and the left eye soon began to protrude, the vision became affected, and these symptoms steadily increased and persisted for about four months. They then began to diminish without any apparent cause, and for eight months there had been a complete remission of the symptoms. In May, 1886, the symptoms returned with increased violence, and the man soon became entirely blind. When Tillaux saw him, the left eye was almost entirely outside the orbit, and the lower lid was entirely concealed. The cornea was opaque, and yet light reflected into the sound right eye caused severe pain in the diseased left eye. A diagnosis was made of tumor of the optic nerve, and it was decided to remove the eyeball and the tumor together. This was done in the usual manner, and the diagnosis was confirmed in every particular. The tumor began about a centimetre behind the globe, was as large as a hazel-nut, and had destroyed the nerve elements. Sections showed it to be deeply pigmented, and it extended backward through the optic foramen into the cranial cavity. The operation relieved the patient entirely of pain.

Cataract Extraction without Iridectomy.—Knapp ("Arch. of Ophth.") makes a comparison between this operation and extraction combined with iridectomy. The advantages of the simple extraction are: 1. It preserves the natural appearance of the eye. 2. The acuteness of vision, other things being equal, is greater. 3. Eccentric vision and orientation are much better. 4. Parts in direct connection with the ciliary body are not so liable to be incarcerated in the wound. 5. It may not involve the necessity of so many after-operations. Its disadvantages are: 1. The technique of the operation is more difficult. 2. Prolapse of the iris and posterior synechiæ are more numerous. 3. It requires a more quiet and manageable patient during and after the operation than is needed in the combined extraction. 4. It is not applicable to all patients. Knapp considers that an iridectomy is indicated in the following cases: 1. When, in case of the fluidity of the vitreous and rupture of the suspensory ligament of the lens, the cataract does not present in the wound on pressure, but only vitreous escapes. 2. When the section is too small, and the iris has been pushed into the wound, and vitreous presents or escapes. 3. When during the operation the iris has been bruised or injured. 4. When the sphincter is unyielding, or when a peripheric piece of iris has fallen before the knife and been exsected. 5. When the iris, after the expulsion of the lens and cleansing of the pupillary field, proves irreducible.

Zonular Cataract and Dental Malformations.—Browne's experience ("Ophth. Review") has taught him that, when zonular cataract is found with a history of fits, the teeth will certainly be malformed; when zonular cataract occurs independently of fits, the teeth will probably be good, and that in many cases of infantile convulsions the subsequent injury to the teeth is observed, the lens being unaffected. He refers to the histories of seven patients, five of whom were the subjects of fits and exhibited malformed teeth, and two gave no history of fits and had uninjured teeth. The distinctive characteristic of the genuine convulsion-tooth, unaffected by congenital syphilis, is the shortness of its enamel. The dentine projects beyond the enamel edge. Inasmuch as the tooth is divided by a more or less well-marked line, beyond which the enamel is imperfect or absent, and the surface of the exposed dentine is more or less rough and honey-combed, Browne describes the condition as the "tidal-mark" tooth. The term establishes the distinction from the notched and pegged teeth of congenital syphilis. The characteristics common to the two may be occasionally seen in the same individual. Occasionally the dentine projection from the "tidal-mark" tooth is worn away or broken off, leaving an apparently short tooth with a somewhat concave border, which is occasionally mistaken for a syphilitic tooth.

The Study of the Color-Sense by means of Colardeau's Chromatophotometer.—Chibret ("Rev. gén. d'ophthal.") and his colleagues have devised an instrument for the determination of Daltonism for all the groups of complementary colors, and for the empirical measuring of the degree of intensity of this affection. It is based upon the simultaneous production, by chromatic polarization, of two tangential circular images always of complementary colors. By simple rotation of the different pieces of the instrument, we can produce a variation of shade through the entire gamut of colors; we can modify simultaneously the degree of saturation of two shades from pure white to complete saturation; and we can modify as we will the luminous intensity of each of them separately. The apparatus is composed of a polarizing Nicol's prism (objective) of a rectangular plate of quartz cut parallel to its optical axis, and of a bi-refracting analyzer (ocular), giving two complementary images of the circular opening, which, placed in front of the polarizer at the opening of the instrument, serves to limit the field. Chibret gives the following results of his examinations with this instrument: 1. The idea of color is always absent in the color-blind for a certain degree of saturation of the so-called confusion-colors. 2. The shades of confusion-colors are not the same for all color-blind persons. 3. The idea of color sometimes exists for even the most feeble saturations, sometimes for the saturations which cross from yellow-blue to red-green, passing through violet-yellow green. 4. This idea of colors is lacking in exactness, the colors seen by the color-blind person not being perceived by him as they are by persons with a normal color-sense. 5. When two complementary colors are seen simultaneously, the idea of color exists for a less degree of saturation than where the colors are seen isolated. The color-blind person can by education merely perfect himself in the art of simulating, without ever arriving at the point of possessing, an idea in which he is lacking; he is deprived of a fraction of the sense of sight.

Erythropia.—Hilbert ("Kl. Mon. f. Aug.") reports another case of erythropia in an aphakial patient, who was operated on for cataract in October, 1885, and who suddenly complained of erythropia in September, 1886. An examination at this date by Hilbert showed in the right eye incipient cataract; in the left eye a large coloboma upward, and fluttering iris, V. = $\frac{6}{12}$ with sph. + D. 12, and Jaeger No. 3 with sph. + D. 16. No untoward symptoms of any kind had occurred after the operation until September 14, 1886, when suddenly everything appeared red to him, and with both eyes. This condition lasted about an hour and then disappeared. Two days later the same thing occurred. On each occasion he had been mentally disturbed before the erythropia appeared. This case is corroborative of the central nature of this peculiar affection. All aphakial patients do not suffer from erythropia, because all are not of the same excitable, irritable temperament. The red vision does not last and become permanent in these cases, because the irritation which causes it is not a permanent or constant one.

The Diagnosis of Iridocyclitis Tuberculosa.—Wagenmann ("Arch. f. ophthal.") doubts the occurrence of primary tuberculosis in the eye, for in all patients who have died shortly after the disease appeared, and on whom autopsies were made, tuberculous masses have been found elsewhere. Where both eyes have been simultaneously affected, it is probable that the tubercle bacilli have circulated in the blood, and have found favorable conditions for development in both eyes. The facts at our disposal are not yet sufficient to enable us to decide whether one diseased tuberculous eye is a direct source of danger for the other. The course of the disease is like that of a neoplasm accompanied by inflammation, modified somewhat by the situation, whether in the iris or in the ciliary body. Sooner or later we notice a swelling of the lids, hyperæmia of the conjunctiva, chemosis, circumcorneal injection, and a stippled and vascular cornea. The latter may be so extensive as to conceal the iris. The aqueous is cloudy, and the iris is discolored, thickened, and vascular. There are posterior synechiæ, which may extend to seclusion and occlusion of the pupil. The aqueous may be so cloudy as to simulate hypopyum, and the actual accumulation of pus in the anterior chamber may be so extensive as to conceal the iris. This may disappear entirely or undergo cheesy degeneration. It is possible that, under certain conditions, the bacilli may enter the anterior chamber, sink to the bottom, become attached to the iris, and there develop. The color of the growths varies in different stages of development. The duration of the disease varies within wide limits. The progress of the disease is rapid if the growth perforates the eyeball, or if an operation has been undertaken for its removal. Functional disturbances appear early in the disease and rapidly grow worse. The acuity of vision diminishes rapidly, peripheral vision is very uncertain, and even light-perception finally vanishes. These unfavorable cases, however, are those in which the seat of the disease is in the ciliary body and the chorioid. Cases in which the iris is the part involved are much more favorable in their course. The sclera and conjunctiva are oftenest involved after perforation has occurred in the anterior uveal tract. It is Wagemann's opinion that extension of the tubercular process from the ciliary body to the chorioid is of rare occurrence, but to this opinion we can not agree. In regard to the differential diagnosis between tuberculosis and syphilis, the treatment is the deciding factor, all other means of differential diagnosis being very uncertain. If the course of the disease has not been cut short or modified, it reaches its height, and then retrogressive metamorphosis sets in, sometimes even before perforation has occurred. The ectatic projections of the sclero-corneal margin flatten and recede, and there remains a sort of cicatricial tissue. The tumors of the iris recede in the same manner. The inflammatory symptoms diminish, and the eyeball shrinks and becomes phthisical, though subject to occasional relapses. As regards treatment, conservative measures are useless, and the eye must be enucleated as a means of preventing possible infection of the other eye and even of other portions of the body.

Fibroma of the Cornea.—Benson ("Ophth. Rev.") reports a case of what he considers to be true fibroma of the cornea, which he removed from the apex of the cornea of a girl, aged nineteen, in good health. Three years before, she first noticed a white speck in front of the pupil of the eye, as large as the head of a small pin. At no time were there any signs of inflammation present. The spot grew slowly in extent and density, and gradually obscured nearly the entire field of vision. When Benson saw her, the opacity was found to be raised above the surface of the surrounding cornea to the extent of nearly a millimetre, while the normal corneal tissue under the tumor remained transparent. The tumor was perfectly circular, four millimetres in diameter, with well-defined edges, and the corneal epithelium extended over it without interruption. With a few turns of Bowman's corneal trephine, the margins of the tumor were isolated from the surrounding cornea, and, with a curved, broad corneal needle and a forceps, the tumor was dissected from the cornea with some little trouble. It was densely white and opaque, while the cornea was perfectly clear beneath it. The cornea soon healed with only a slight nebula at the center. Histologically, the growth was a fibroma, and resembled corneal tissue with its fibers, corpuscles, etc.

The Treatment of Infectious Keratitis by Irrigation with Mercuric Bichloride.—Gillet de Grandmont ("Rec. d'ophthal.") speaks very highly of frequent irrigation with a 1-to-2,000 solution in the restoration of the cornea, after a more or less total destruction of its tissue. It has two advantages: the first is that of avoiding everything that might interfere with the work of proliferation of the reparative elements; the second consists in placing these elements in such a condition that suppuration can neither destroy these young organisms nor prevent their normal and regular development. In keratitis with hypopyum and extensive slough of the cornea, he advises the Sæmisch section at once, and the extraction of the pus from the anterior chamber by fine forceps plunged in a solution of mercuric biniodide (1-to-20,000). The anterior chamber should then be washed out with the same solution by means of Anel's syringe. Irrigation of the eye and *culs-de-sac* is then to be done every hour or every two hours with the bichloride solution, or baths of the same solution for five minutes are to be applied by means of an eye-cup. If the bichloride solution of 1-to-2,000 proves too irritating, it may be weakened, but its use should be continued until cicatrization is complete.

The Coccus of Phlyctenular Keratitis.—Burehardt ("Ctrlbl. f. prakt. Aug.") has found in corneal phlyctænulæ a coccus which corresponds very nearly to the *Coccus flavus desidens* described by Flügge. It is somewhat smaller than the *Coccus pyogenes aureus*, and does not appear in any considerable number in the vesicles. It is probable that this coccus is the constant and only cause of phlyctenular conjunctivitis and keratitis. The best method of treatment in these cases is to cauterize the corneal vesicles with the galvano-cautery.

A New Instrument for performing Optico-ciliary Neurotomy.—Briggs ("Arch. of Ophth.") presents an instrument which consists of two pairs of curved scissors, united in such a manner that their cutting edges are from three to four millimetres apart, while their points are closely approximated. When they are closed in operating, the divided section of the nerves is pressed between the blades and withdrawn with them. The scissors work so that the two sections are made simultaneously. In operating, the conjunctiva and subconjunctival tissue are divided, and then the instrument is introduced with the blades closed between the internal and inferior recti muscles. When the optic nerve is found, it is divided as in enucleation.

The Use of Cocaine and Passive Motion in Obstinate Cases of Paralysis of the Ocular Muscles.—Spalding (*ibid.*) has been employing the method of treatment advocated by Michel in these cases. The paralyzed muscle is to be grasped with forceps through the conjunctiva, and the eyeball then moved in the line of that muscle as far as possible beyond the extreme of contraction, and then back to the extreme of elongation. This motion should be continued for two minutes at each session. The pain is slight and the irritated condition of the conjunctiva is rapidly relieved by cold compresses. The sessions should be daily. With the use of cocaine, the method is painless. He reports in detail one case of obstinate paralysis of the third nerve in an old man in whom there was neither syphilitic nor rheumatic taint. The three recti muscles were each exercised in this way at every session, and at the end of three weeks the diplopia had entirely disappeared.

Conjugate Palsy of the Ocular Muscles and Nystagmus.—Gowers ("Ophth. Rev."), in a recent discussion, drew attention to the forms of conjugate palsy of the lateral movements of the eyes caused by disease on one side of the pons. The lateral movement was excited by the sixth nucleus on one side acting through its own nerve on the external rectus, and through the posterior longitudinal fibers on the opposite internal rectus. It was probable that these third nerve-fibers did not actually arise from the sixth nucleus, but that their cells were connected with those of the sixth. It had been sometimes assumed that the center for this lateral movement was the sixth nucleus, but this view was erroneous; the center was possibly the superior olivary body. There were three classes of palsy from disease of this region: 1. Paralysis of the sixth nerve only, from disease of its fibers within the pons, causing absolute palsy of the external rectus and deviation of the eye inward. 2. Disease of the nucleus of the sixth, causing the total palsy just mentioned, with loss of the associated action of the opposite internal rectus. 3. Disease above the sixth nucleus, causing palsy of the lateral movement of both eyes, but without the total palsy of the external rectus. If the eyes were moved toward the opposite side, they could be brought back as far as the middle line, but not farther. The affected muscles could bring the eyes back from the position produced by the action of their antagonists, although they could not effect a primary movement. The excitation for the return movement was probably due to the influence of the centers of the opposite side. This was perhaps a special instance of the associated action of opposing muscles, continuing longer in the centers for the opponents than in those for the primary movement. This consideration simplifies the problem of the immediate mechanism of nystagmus, reducing it to the causation of the intermissions of the primary contraction. In the subject under consideration, it is probable that a tendency to intermission is inherent in the centers, but is normally restrained, and the contraction is rendered uniform by some influences, perhaps complex. One such influence might be the mutual action of opposing centers.

The Action of Myotics and Mydriatics on the Accommodation.—Lang and Barrett ("Roy. Lond. Ophth. Hosp. Rep.") have been experimenting with a two-per-cent. solution of homatropine in castor-oil, with a two-per-cent. solution of homatropine and cocaine in castor-oil, and with a one-per-cent. solution of eserine in water. The estimation of the size of the pupil was made with a coreometer. The estimate of the position of the far and near points was made by means of a slide-optometer, and the measurements were in the vertical meridian only. In order to bring the points within measurable distance, the eyes observed were always rendered myopic by convex lenses. The lenses were always placed very close to the eye, so that the nodal point was not materially altered in position. Taking averages, the action of homatropine caused: 1. A dilatation of the pupil, which began at the 13·33 minute, reached its maximum at the 60th minute, and disappeared in 21·67 hours. 2. A recession of the near point, which began at the 6·67 minute, reached its maximum at the 61·67 minute, and disappeared in 8·75 hours. 3. A variability in the position of the far point, ranging from 0·78 D. to 0·42 D. 4. A diminution of the range of accommodation, the total range being 1·01 D. The action of homatropine + cocaine caused: 1. A dilatation of the pupil, which began at the 10th minute, reached its maximum at the 30th minute, and disappeared in 34·5 hours. 2. A recession of the near point, which began in 6·67 minutes, reached its maximum in 61·67 minutes, and disappeared in 25·67 hours. 3. A variability in the position of the far point, ranging from 0·43 D. to 0·75 D. 4. A diminution of the range of accommodation, the total range being 0·66 D. Comparing the action of homatropine alone with that of homatropine + cocaine, we find: 1. That homatropine and cocaine dilate the pupil more rapidly than homatropine alone, and that the effect lasts longer. 2. That homatropine and cocaine alter the position of the far and near points in about the same time as homatropine alone, but the effect on the near point lasts much longer. 3. That homatropine and cocaine nearly reduce the accommodation to *nil*. After paralysis of the sphincter pupillæ and ciliary muscle has been effected by the application of homatropine, or of homatropine + cocaine, the application of eserine causes a contraction of the pupil, with an approximation of the near point to such an extent that in the great majority of cases the individual can in a few minutes resume work without inconvenience.

Miscellany.

The "Nashville Medical News."—The publication of this journal, which was edited by Dr. Richard Douglas and Dr. John W. McAlister, has been discontinued. The journal was a bi-weekly.

The Health of Michigan.—According to a summary prepared by Dr. Henry B. Baker, the secretary of the State Board of Health, for the month of July, diphtheria was reported from thirty-six places, scarlet fever from twenty-five, measles from twenty-seven, typhoid fever from sixteen, and typhus from one.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 4th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 16th corresponded to an annual rate of 20·7 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Portsmouth, viz., 13·6, and the highest in Preston, viz., 31·1 in a thousand.

London.—One thousand seven hundred and seventy-four deaths were registered during the week ending July 16th, including 1 from small-pox, 65 from measles, 23 from scarlet fever, 16 from diphtheria, 87 from whooping-cough, 5 from enteric fever, 312 from diarrhœa and dysentery, and 14 from cholera and choleraic diarrhœa. There were 188 deaths from diseases of the respiratory organs. Different forms of violence caused 60 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 22 in a thousand. In greater London, 2,121 deaths were registered, corresponding to an annual rate of 20·4 in a thousand of the population. In the "outer ring" 7 deaths from measles, 43 from diarrhœa, 14 from whooping-cough, and 8 from diphtheria were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending July 16th, in the sixteen principal town districts of Ireland, was 24·2 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 4·2, and the highest in Waterford, viz., 39·4 in a thousand.

Dublin.—One hundred and eighty-nine deaths were registered during the week ending July 16th, including 28 from measles, 2 from whooping-cough, 2 from enteric fever, and 12 from diarrhœa. Diseases of the respiratory organs caused 35 deaths. Six accidental deaths were registered, and in twenty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27·9 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 16th corresponded to an annual rate of 19·5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 14·6, and the highest in Greenock, viz., 28·1 in a thousand. The aggregate number of deaths registered from all causes was 487, including 1 from small-pox, 3 from measles, 11 from scarlet fever, 1 from diphtheria, 43 from whooping-cough, and 30 from diarrhœa.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,191, during the month of May, 1887, corresponded to an annual rate of 29·4 in a thousand of the population. The lowest rate was recorded in Groningen, viz., 16·4, and the highest in Maastricht, viz., 32 in a thousand.

Cardenas.—The United States consul, under date of July 23d, states that "in the town a good deal of yellow fever prevails among the unacclimated. In the harbor we have but one vessel with fever, out of which vessel four men have been sent to the hospital, and all alive at this date."

Santiago de Cuba.—Small-pox is epidemic.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Glasgow	July 16.	545,678	176	..	....	....	....	2	4	....
Warsaw	July 9.	439,174	191	..	....	5	....	....	....	....
Amsterdam	July 16.	378,686	156	..	....	....	....	1	....	2
Rome	May 28.	369,214	142	..	....	3	....	16	3	3
Munich	July 2.	269,000	180	..	....	....	....	1	1	3
Munich	July 7.	269,000	170	..	....	....	....	....	1	3
Palermo	July 16.	250,000	130	..	....	....	....	1	13	2
Belfast	July 9.	224,422	100	..	....	....	2	....	1	1
Belfast	July 16.	224,422	105	..	....	....	1	1	1	....
Bristol	July 2.	223,695	71	..	....	....	....	....	4	1
Bristol	July 9.	223,695	69	..	....	....	....	....	1	....
Genoa	July 16.	179,305	102	..	....	1	....	...	....	1
Leipsic	July 16.	170,000	60	..	....	....	....	....	....	1
Trieste	July 9.	150,157	67	..	....	5	....	....	1	2
Stuttgart	July 16.	125,510	32	..	....	....	....	....	....	1
Havre	July 16.	112,074	72	..	....	2	....	7	1	1
Guayaquil	July 7.	35,000	59	..	....	13	....	....	....	....
Guayaquil	July 15.	35,000	50	..	....	7	....	....	....	....
Gibraltar	July 10.	23,631	11	..	....	....	....	1	....	....

UNITED STATES.

Key West—Yellow Fever.—The medical officer in charge of the Marine-Hospital Service (Passed Assistant Surgeon John Guitéras) reports a total of 208 cases and 44 deaths up to date.

Sapelo Quarantine Station.—The British bark "Lucia," infected with yellow fever, is now undergoing quarantine at this station.

Delaware Breakwater Quarantine Station.—The acting assistant surgeon in charge (Dr. William P. Orr), in his dispatch relative to the arrival of infected vessels, states that "ship 'Prince Albert,' Rio de Janeiro; all well. Two cases yellow fever at Rio, and 1 death. One death from fever during passage. Bark 'Carrie L. Tyler,' Havana, via Matanzas; all well. Five cases and 1 death at Havana. Captain and mate died at Matanzas."

THERAPEUTICAL NOTES.

Corrosive Sublimate in the Treatment of Diphtheria.—J. Stumpf ("Münchner med. Woch."; "Ctrlbl. f. Chir.") gives his results in the treatment of thirty-one cases, only two of which proved fatal, in which he used a spray of a solution of from 1 part to 4 parts of corrosive sublimate in 3,400 of distilled water and 600 of peppermint water. About a teaspoonful at a time was applied to the pharynx in the form of spray, at first every hour, and then every two or three hours. Except a very transitory salivation, no toxic symptoms were observed, but the fever rapidly declined, the diphtheritic process ceased to extend, and the difficulty in swallowing was mitigated. The membrane usually disappeared in from three to five days more. The patients ranged from nine months to twelve years in age, most of them being between three and six years old. In six of the cases the disease accompanied scarlet fever, in five there were marked laryngeal symptoms, and in twenty the phenomena were simply those of pharyngeal diphtheria.

A Caution concerning the Use of Blisters.—J. Comby ("Progr. méd."; "Ctrlbl. f. Kinderh.") reports the case of a child, two years old, which, having been attacked with double broncho-pneumonia in the course of measles, was treated by the application of two large blisters, one of which was kept on for six hours and the other for four. A fortnight afterward, the surfaces to which they had been applied were occupied by large suppurating and gangrenous sores, and the child died three days subsequently. In the author's opinion, its death was hastened by the blisters, and he adds the general warning that blisters should be used only with the greatest caution in children, especially where from the nature of the disease there is reason to apprehend the supervention of a diphtheritic complication, and never in children's hospitals.

Cocaine as an Antidote to Strychnine.—Bignon ("Genio Méd.-quir."; "Gaz. hebdom. de méd. et de chir.") finds, as the result of experiments on dogs, that hypodermic injections of cocaine, kept up until the strychnine has been eliminated, prevent a fatal result in cases where the dose of strychnine administered is not excessive, and retard it when large doses are used.

Carbolic Acid in the Treatment of Puerperal Septicæmia.—According to "Nouveaux remèdes," Sviedey recommends a pill containing a grain and a half of phenic acid, with a mixture of equal parts of gum arabic, powdered licorice, and soap—from two to ten such pills to be given in twenty-four hours.

ANSWERS TO CORRESPONDENTS.

No. 21.—The Medico-chirurgical College, of Philadelphia.

No. 22.—The facts being as you state, you are in no danger of prosecution. What you did was a mere act of humanity, and no judge or jury would entertain the idea that it was an infraction of the law.

No. 23.—We would suggest that you ask the physician in attendance what he usually charges for a visit to a member of the family, and make your own consultation fee double that charge.

No. 24.—The correct expression is *per os.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE PATHOLOGICAL NASAL REFLEX.

AN HISTORICAL STUDY.[*]

By JOHN NOLAND MACKENZIE, M. D.,
BALTIMORE.

"Nullum est jam dictum, quod non dictum sit prius."—Terence.
"Multa renascentur, quae jam cecidere."—Horace.

Within the past few years the attention of the medical world has been more prominently called to a series of morbid phenomena, some directly referable to the nasal apparatus, others to regions of the body more or less remote from the nose, which seem to depend upon irritation or well-marked structural changes in the intra-nasal tissues, and which not infrequently disappear after removal of the source of irritation within the nasal cavities. These seemingly purely neurotic conditions have received the name of the *nasal reflex neuroses*, and embrace a host of sensory, motor, and vaso-motor phenomena, varying greatly in nature and anatomical sphere of operation. Various neuralgic conditions of the branches of the fifth and other nerves—cough, asthma, vertigo, nightmare, "hay fever," various spasmodic affections, general convulsions, diseased states of the nose, eye, ear, larynx, and bronchial tubes, symptoms referable to irritation of the gastro-intestinal, utero-ovarian, and genito-urinary tracts; even chorea, epilepsy, melancholia, retarded sexual development, and exophthalmic goître—have been mitigated or known to disappear with the cure of the nasal affection.

While in some of the recorded instances of these "reflex nasal neuroses" the enthusiasm and hasty judgment of the reporters have carried them too far, and while in many cases the direct connection between the nasal disease and the reflected phenomena is not sufficiently evident, still the fact is established beyond a reasonable doubt that a causal relationship does often exist between certain conditions of the nasal passages and other portions of the respiratory tract, and a host of phenomena referable to other and remote organs of the body—a direct dependence or connection which justifies us in the belief of their reflex reciprocal relationship.

At the present day, when, by common consent, our knowledge of this class of affections is confined within the narrow limits of scarcely two decades, it may be interesting to glance for a moment beyond the writers of the present epoch to the literature of more distant times.

In the "Symposium"[†] of Plato, when the time came for Aristophanes to speak, he was seized with the hiccoughs, and, upon requesting Eryximachus to stop them and speak in his stead, was told that, if the hiccoughs were ever so violent, if the nose were tickled they would cease at once. This popular recognition of the sympathy between the nose and diaphragm is also distinctly affirmed in the sixth book of the aphorisms of Hippocrates: "If sneezing comes upon a man in a fit of the hiccoughs, it puts an end to the disorder."[*]

The consensus or sympathy between the nose and eye seems also to have attracted popular attention. Thus, Aristotle[†] devotes two paragraphs of the thirty-third section of his "Problems" to the consideration of the question why rubbing the canthi of the eyes puts an end to sneezing. Avicenna,[‡] to prevent sternutation, recommends rubbing the eyes, ears, extremities, and palate, whilst Rhazes,[#] in his chapter on acute and chronic obstruction of the nose ("De alcasem"), mentions, among the symptoms of the latter, abrogation of the sense of smell with a co-existing diseased condition of the eyes. Rhazes also recommends the induction of sneezing "when the mouth is convulsed and drawn to one side,"[‖] and mentions the fact that running at the nose, a cold in the head, and hoarseness may occur from the odor of violets, etc.[△] The relation of certain affections of the head, and notably hemicrania, to congestive and even inflammatory disorders of the nasal apparatus, seems also to have been foreshadowed in the writings of the earlier physicians. Thus, in the "Medical Compositions" of Scribonius Largus[◊] is found the following direction for the cure of certain forms of headache: "*Oportet vero permanente capitis dolore, materiam quoque detrahere ex eo per nares vel os.*" Largus (Composition X) advises sternutation as a remedy for headache.

The dependence of catarrh, coryza, asthma, syncope, convulsions, and a host of other phenomena upon the presence or odor of roses, lilies, peonies, and other flowers, has been recognized for centuries. For, although Pliny[‡] informs us that the seed of the rose inhaled into the nostril has the effect of clearing the brain, there are many cases to be found among the older writers in which the odor of various substances, such as the rose, was known to result in epilepsy, syncope, and even death,[↕] and there is a tra-

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[*] Read before the American Laryngological Association at its ninth annual congress.

[†] Section 13.

[*] Aph. 13. Compare also Celsus, lib. ii, cap. 8.

[†] Opera omnia graeco-latin., vol. iv, Problem xxxiii, 2 and 8, Parisiis, 1858. Ed. Didot.

[‡] Op. omnia, Venet., 1608, lib. iii, Fen. 5, tract 2, cap. 14.

[#] "Opera medica," Basiliæ (date uncertain, 1544 or 1450, Lib. S. G. O.). Divisionum, lib. i, cap. 43.

[‖] *Op. cit.*, "Ad mansor. de re med.," lib. ix.

[△] *Ibid.*, cap. xiii.

[◊] Scribonius Largus, "De compositionibus medicamentorum liber unus," Parisiis, 1529. Ed. Vuechel, Comp. vi.

The ancients included under the generic term headache the affections known as cephalalgia, cephalea, and hemicrania or heterocrania, the latter term being employed by Aretæus ("De caus. et sig. morb. chron.," liber i, cap. 2). Aretæus says the sense of smell is vitiated in heterocrania.

[‡] "Nat. hist.," lib. xxi, cap. 73. The same writer (lib. vii, cap. 7) also observes that the smell of a lamp which has been extinguished will often cause abortion, and that the latter ensues should the female happen to sneeze just after the sexual congress.

[↕] While there is a remote possibility that this observation of the ancients, which finds its reflection in the poetic imagery of Pope, may have some slight foundation in fact, it is extremely doubtful whether, in the cases referred to, death was due to the simple inhalation of the odorous particles of the flower, for in some of the recorded instances the victims were confined to closed chambers, and were possibly poidition that the Roman ladies conceived an especial aversion to the odor of the queen of flowers.

The diagnostic acumen of Galen * led him to the observation that in certain persons the presence of various foods is sufficient to excite a coryza, and scattered here and there through the literature of succeeding centuries isolated cases are found in which similar peculiarities in regard to flowers and other objects are recorded.†

In the light of our present knowledge of the affection known as "hay fever," it is scarcely conceivable that it made its first appearance at the beginning of the present century. As Dick, and afterward Matthew Baillie, thought that in describing their first cases of laryngitis they had discovered a new disease, so Bostock, in portraying the symptoms of "*catarrhus æstivus*," was led into a similar error. For no one can arise from the perusal of the older writers on asthma without the conviction, or at least the suspicion, that this disease has descended to us through the centuries as a species of the "convulsive asthma" and "periodic coryza" of the more ancient nosologists, who in their state of medical science did not resort to the nosological refinements which proceed from the more advanced pathological research of the present day and century.

I have shown elsewhere ‡ that the so-called "idiosyncrasy," by virtue of which the presence or odor of certain flowering plants is sufficient to create disturbances referable to the nasal chambers and other portions of the respiratory apparatus, was familiar at a remote period of medical history. In the days when medical writings were published in Latin, the necessity of recording one's observations in a foreign tongue led to a terseness of style and incompleteness of description which often surrounded with uncertainty the exact nature of the cases reported; but, whether the records referred to were examples of true vaso-motor coryza or not, they may be placed in the same category of affections, and the predisposing influences be considered identical with those provocative of the disease called in the present century "rose-cold."

To Voltolini (1871) is universally and erroneously attributed the credit of pointing out the interesting relationship between asthma and nasal disease. I pointed out at the last meeting of this association,# however, from the writings of Aurelian, Zecchius (1650), Schneider, Floyer (1726), Bree (1811), Trousseau, Follin and Duplay, and Ferber (1869), that the association of these two conditions was known long before the time of Voltolini. Among these writers, Ferber, referring to the frequent association of sneezing, migraine, hay fever, and bronchial asthma, advanced the theory that these phenomena were the expression of a neurosis of the trigeminus nerve—a view which has recently been resurrected in a modified form by Schadewaldt.

The association of epileptoid seizures, or even true epilepsy, with some irritation in or about the nasal passages, or peculiar susceptibility on the part of certain individuals to be thrown into epileptic convulsions through the application of some forms of matter to the nasal mucous membrane, seems to have been familiar from the earliest times. We learn, for example, from Aretæus ("De causis acut. morborum," lib. i, cap. 1, ed. Boerhaave, Ludg. Bat., 1735) that the gagate stone (a species of hard coal or jet) was utilized by the ancients as a test for epilepsy, for when applied to the nostrils the sufferer was thrown into epileptoid convulsions. Pliny (lib. xxxvi, cap. 34) also alludes to this test, and to the power of the smell arising from burning goat's horns or deer's antlers in accomplishing the same result (lib. xxviii, cap. 63). According to this historian, the secundines of a she-ass, placed under the nostrils of the patient when the fit is approaching, will effectually dispel it. It is also a curious historical fact that Avicenna ("Op. omn.," Venet., 1608, lib. iii, Fen. i, tract v, cap. 8, p. 499) mentions (*l. c.*, Fen. 5, tract ii, cap. 15, p. 585) "rosa cum suis pilis" among the milder measures resorted to to provoke sternutation, and regarded sneezing itself as a mild form of epilepsy (*epilepsia levis*), and that a similar opinion was entertained long afterward by the learned Fernelius ("Medicina," Lutetiæ Parisiorum, 1554, "De epilepsia").

Fernelius treated also of the association of hemicrania and catarrh, which, in the quaint * language of his translator, was supposed to be due to "a vapor which, arising from choller flowing out of the liver into the stomach, does smite and twitch the membranes of the brain, yielding matter peradventure to the distillation." Elsewhere † he reports the case of a boy eleven months old, who was sick of a catarrh, who "sucked much and pissed little," and who was cured by anointing the region of the kidneys with oil of scorpions, which caused a flow of urine and the cure of his catarrh. Fernelius observes that in the eighth book of Mercatus on "Diseases of Children" it is stated that catarrhs sometimes happen in children from weakness or fault of the kidney. Farther on (p. 65) he gives a case in which suppression of urine was supposed to proceed from a catarrh in the head; "the flowing humor had invaded the body of the bladder and bred some tumors therein, by which the sphincter of the bladder was compressed and the passage of the said bladder made straight."

In the seventeenth century Salmuth ‡ called attention

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soned by the displacement of the oxygen of their bedrooms by the noxious exhalations from the plants. It should also be remembered that our less civilized and punctilious brother-man of a few centuries back did not hesitate to dispose of an enemy through the covert instrumentality of poisoned flowers and other equally insidious devices, by means of which the deadly agent was introduced into the system through the respiratory mucous membrane.

* "Fragment. ex aphor. Rabi Moyses." Good, "Study of Medicine," Boston ed., 1823, vol. i, p. 311.

† In certain individuals, or even families, this peculiar antipathy or susceptibility to particular flowers or foods takes the form of nose-bleed, in others violent purging occurs, or even epileptoid convulsions.

‡ "Trans. of the Med.-chir. Fac.," 1885. "Am. Journal of the Med. Sciences," January, 1886.

"N. Y. Medical Journal," February 26, 1887; also "Trans.," 1886.

* "Select Medicinal Counsels of Johannes Fernelius," bound with the Works of Riverius, London, 1668. Author's library. Counsel III, p. 325.

† Page 35.

‡ "Observationum medicarum centuriæ tres posthumæ," Brunsvigiæ, 1648, cent. ii; obs. 13, p. 65; and obs. 60, p. 87.

to the fact that paroxysms of epilepsy are often resolved by the eruption of blood from the nose, and related a case of "periodic paralytic tremor" in a woman of fifty, dependent probably on a subacute form of catarrh.

In 1656 Bausner[*] wrote an essay devoted to the consideration of the sympathies between the different parts of the body, in which he alludes briefly to the relation between affections of the stomach and coryza, and to the effect of obstruction of the nostrils on the voice and respiration.

In 1682 Wedel[†] treated of the association of vertigo and sneezing, and in the same year Van Helmont,[‡] in several chapters of his work, discussed the effects of sweet odors in the production, not only of epilepsy, but headache, nausea, vomiting, cough, hiccough, vertigo, apoplexy, dysentery, and other affections. He also alludes to the fact that, while sweet odors give rise to asthma in some, in others they produce, instead of asthma, hemicrania, palpitation, and syncope. This writer regards such disturbances as of frequent occurrence, and is looked upon by some as the first to recognize the affection known as "hay asthma."[#] He explains the mechanism of such attacks by the operation of the "archæus," on the fantastic theory with which his name is inseparably associated in medical history.

Two cases of probable "rose-cold" were related toward the close of the seventeenth century by Binningerus[‖] and his contemporary Ledelius,[△] and Pechlinus[◊] reported the case of a pharmacist who was thrown into violent paroxysms from the odor of violets in his urine, and was only relieved upon the return of the natural odor to the excretion. The same writer relates another case, in which a woman, having taken saffron for some menstrual trouble, was seized with coryza, headache, sneezing, and other annoying symptoms.[↧]

In the early part of the last century Baglivi[↕] called attention to the fact that irritation of the nostrils by snuff (or tobacco) might provoke a desire to go to stool. This same observer also called attention to the association of asthma and urticaria.[*]

A few years after the publication of Baglivi's work, Gumprecht[†] discussed the sympathetic troubles connected with the inhalation of vapors into the nostrils, and explained them on the theory that the vapor taken into the nose affected preternaturally the branches of the fifth pair of nerves and was reflected to the fauces, stomach, heart, and lungs through the medium of the intercostal and eighth pair (Willis).

This nerve theory, which was the outcome of the neuropathology of Willis[‡] and Vieussens,[#] was subsequently insisted upon by Henricus Josephus Rega in an elaborate general discussion of the sympathies between the different organs of the body.[‖]

Rega mentions the sympathy of the uterus and fauces, and that between the fauces and parts lower down.

During the first part of the last century there appeared a ponderous work by Johan Jacob Wepfer[△] consisting of a collection of cases illustrative of the external and internal diseases of the head, in which the relationship of hemicrania and other pathological phenomena to nasal inflammation and obstruction was distinctly and emphatically announced. Nothing seems to have escaped the far-reaching experience and accurate observation of this writer, to whose powers of description and diagnostic acumen it would be difficult to do justice within the limits of this review. So instructive is every case and page that it would be hard to make a selection, and I shall therefore only refer briefly to the following:

Obs. xxxiv, pp. 75, 76. Association of cephalalgia with sternutation, screatus, cough, and coryza, supposed to be due to irritation of the dura mater.

Obs. xxxvi, pp. 80–82. Paroxysms of violent headache, vertigo, pain from the nucha to the head, debility of memory and vision, tremor, cough, pain in the eye and about the nose, due to obstruction of the nostril from abuse of tobacco, which caused retention of mucus within the nostril, and awakened the above-mentioned symptoms from the sympathy of the latter with the meninges about the torcular Herophili. In this case the mucus retained in *the deeper portions of the nostrils* (*profunde intra cavernas narium retentus et inspissatus ab aere ex pulmonis expirato præservido*) was supposed to draw the mininges into consent.

Obs. xxxviii, pp. 84, 85. Association of pains in head, tinnitus, pains in humerus, various nervous symptoms and vomiting, with inflammation of the fauces. A very interesting case.

Obs. xl, p. 94. Says he has frequently observed hemicrania due to obstruction of the nares.

Obs. xlii, pp. 100–102. Case in which intense paroxysms of periodic cephalalgia and hemicrania were preceded by stupor of the head with gravedo. The patient suffered from obstructed nostrils, with tendency to somnolence and delirium. When the acme of the paroxysm was reached, vomiting of a tenacious mucus with bile occurred, with relief to the symptoms.

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[*] Bartholomy Bausner. "De consensu partium corporis humani," lib. ii, cap. 2. Amstelodami, 1656.

[†] "Dissertat. aeger vertigine laborans," Ienæ, 1682. "Diss. de vertigine," Ienæ, 1707 and 1741.

[‡] Johan Baptist Van Helmont. "Op. omnia," Francofurti, 1682. "Imago fermenti impregnat massam semine," p. 110, § 10; p. 344, § 10; and p. 348, § 41. This author also refers to the case of a monk, employed in pulling down buildings, who grew asthmatic from the constant inhalation of dust.

[#] Bergeron. Thèse d'agrégation, 1872, referred to by Louis Villemsens. Thèse de Paris, No. 494, 1872. "Étude sur le cat. spasmodique d'été," etc.

[‖] Johan Nicolai Binningerus. "Observationes medicinal. cent. quinque," etc. Montbelgardi, 1673. Obs. 86, p. 227. I am indebted for this reference to the work of Dr. Morell Mackenzie—"Hay Fever," etc., London, 1885. Third edition, p. 48.

[△] "Miscellan. nat. cur.," Dec. ii, anno i, Obs. 140. This case is not infrequently referred to by the writers of the last century, and also by Phœbus ("Der typische Frühsommer Katarrh," etc., Giessen, 1862) and Morell Mackenzie (*op. cit.*).

[◊] Joh. Nicol. Pechlinus. "Observationum physico-medicorum libri tres," etc. Hamburgi, 1691, lib. ii, obs. 50, p. 332.

[↧] *Op. cit.*, lib. i, obs. xli, pp. 94–96.

[↕] "Opera omn. med. practic.," Lugd., 1714, spec. lib. i, cap. x, p. 342 *et seq.*

[*] *Op. cit.*, p. 104.

[†] Georg Gottlieb Gumprecht, "Diss. de consensu partium præcipuo pathologiæ et praxeos medicæ fundamento." Halæ-Magdeburgicæ, 1717.

[‡] "Cerebri anatome cui accessit nervorum descriptio et usus." Amstelodami, 1666, inter al. capp. 21, 25, 26, and 27.

[#] "Neurographia universalis." Lugduni, 1685, lib. iii, caput v, de nervis intercostalibus, eorumque muniis.

[‖] "De sympathia seu consen. part. corp. humani, ac potissimum ventriculi, in statu morboso, diss. medica." Harlemi, 1721.

[△] "Observationes medico-practicæ de affectibus capitis internis et externis." Scaphusii, 1728.

Obs. xliii. Case of a man suffering from obstructed nares, who was troubled for seven years with daily pain in the head in the morning when he arose from his couch, to which were soon added heaviness of vision, vertigo, tinnitus aurium, debility of the joints, with tremulous movements of the same. These symptoms were relieved by drawing the mucus from the head and nose into the fauces. The mucus was removed with difficulty owing to the narrowness of the nostrils from obstruction. He explains the case on the theory of sympathy and laxity of *the pores in the spongy bones.* Wepfer believes the trouble to have been an invasion of the spongy (turbinated) bones, and observes that in such cases the indication is to remove the inspissated mucus from the nares. A most interesting case.

Obs. xliv. Hemicrania from an acrid serous discharge.

Obs. xlvi, pp. 109–125. Headache, cough without expectoration, asthma, palpitation of the heart, and signs of phthisis. Tubercles in the lung were suspected "because crude tubercles were seen in the fauces at the root of the tongue such as are described by Galen" (probably follicular faucitis).

Obs. xlvii. An instructive case of hemicrania and coryza with "constipation" of the nose.

Obs. lii, p. 140. Hemicrania with swelling of the parotid gland, tinnitus, and unilateral discharge from the ear and nostril.

Obs. liv. Association of hemicrania with loss of olfactory sense, dimness of vision, muscæ volitantes, etc., with an acrid discharge from the nose which stained the handkerchief yellow.

Obs. lvii. Hemicrania, tinnitus aurium, vertigo associated with uterine trouble, sneezing, and a nasal discharge.

Obs. lxxii, pp. 241–244. Vertigo associated with a nasal discharge, dimness of vision, nebulæ before the eyes, tinnitus aurium, wax in the ear, etc.

Obs. lxxv. Vertigo supposed to come from hydrocephalus; says in such an event, if the nostrils are obstructed, give errhines.

Obs. lxxvi, p. 256 *et seq.* Remarkable case of vertigo associated with asthma at night and tendency to nasal hæmorrhage. The paroxysms were mitigated by forcible screatus or vomiting. Thinks it came from stomachic trouble originally.

Obs. lxxvii. A patient who used tobacco as a stenutatory to excess became subject to nasal hæmorrhage, dyspnœa, occasional deafness with tinnitus aurium, and vertigo with convulsions. The brain was perfectly clear during the paroxysms. Wepfer observes that such affections, if neglected, are apt to degenerate into epilepsy.

Obs. lxxviii. Vertigo, convulsive movements, nightly terrors, etc., in connection with mucus in the fauces, etc.

Obs. lxxix. Hemicrania, vertigo, tinnitus aurium, and tremor of the joints in a person whose nares were sometimes dry, while at other times they were filled with a limpid mucus which flowed in quantity from the nose, causing redness and excoriation of the latter. In the same observation (p. 296) he speaks of the association of mucous vomiting, fluor albus, recurring coryza, lacrymation, etc., from the suppression of a diurnal coryza.

Obs. lxxx. A most instructive case of a woman, sterile throughout her entire life, who, an habitual sufferer from coryza, was seized at the autumnal equinox with vertigo, tinnitus, troubles about the head (debility, sweating), with a peculiar vibration about the left eye, with obscure vision, and with many-colored nebulæ before the eyes.

Obs. cv, p. 469. Catarrh, gout, coryza, occasional attacks of vertigo, etc.

Obs. cx, pp. 486–488. A man, subject to catarrhal affections of the tonsils and throat, suffered from paroxysmal convulsive movements of the throat and neck, especially of the right side, with a sense of compression and constriction of the larynx.

Obs. cxci. Nasal polypus, with hemicrania from a carious tooth.

Obs. cxcv. *Coryza prope continua.* A patient suffered with chronic coryza, with itching of the nose. He was finally seized with vertigo, weakness of vision, trouble with the memory, a sense of heaviness about the forehead, temples, and orbit, and even in the eyes. To these symptoms were added oppression about the chest, with dyspnœa and headache, especially when going up stairs and in mountain ascents.

Obs. cxcvi, p. 917. *Narium obstructio.* A case of extraordinary interest. A man, aged seventy-six, of medium height, tolerably fleshy and of good color, suffered with prolonged attacks of coughing, which could be increased by an effort of the imagination alone. He was especially subject to the cough in winter, and if, perchance, he got his feet wet, he was immediately seized with a paroxysm, so that he was obliged to be confined to the house during the whole of the winter season. His chief and apparently only trouble was an occlusion of the nares which prevented sleep, or if, by chance, he fell asleep, he was immediately awakened. The nostrils, when freed from mucus, would become patulous, and soon again become occluded. On examination, the right naris was found occluded by a sort of "sarcoma" of the ala. A similar "sarcoma" occupied the internal surface of the left ala. Neither was so attached as to allow of operation by the knife or cautery (*ferro vel igne*). Whenever he inhaled sharp medicines into the nares, he experienced pain about the cribriform bone and in the occiput. When he lay on the left side, he suffered from pain under the left breast, and was seized with a dreadful sense of oppression, which threatened leipothymia. In other respects he seemed to be well, he lived temperately, his heart never palpitated, he breathed easily in ascending stairs, etc.; he did not suffer from vertigo, headache, etc.

Wepfer, in commenting on this case (p. 918), observes that the chief interest centers in the peculiar narrowness of the nostrils and the nocturnal trouble, and goes into a differential diagnosis. After excluding heart and other troubles, the absence of any vestige of polypus or common sarcoma in the nose and fauces, he concludes that the trouble was due *to a turgescence of the myriad vessels of the spongy bodies* (*corpora spongiosa*), which prevented the air from passing to the os cribriforme, fauces, and palate. The obstruction caused, he thought, retention of mucus in the nostril, which became inspissated by the air coming from the lungs, and which, furthermore, tended to increase the narrowness of the passage.

About the middle of the last century Daniel Langhans* published an elaborate dissertation which deserves special mention, in which he adverts to the *rôle* of the superior cervical ganglion in the evolution of sympathetic (reflex) acts—such as asthma, cough, etc., from irritation of the stomach, uterus, and other organs of the body.

In 1760, Morgagni † explained more fully the sympathy between the nostrils and the diaphragm and the abdominal viscera, calling attention at the same time to the communication between the fifth pair of nerves and the intercostals (Willis). In illustrating his theory, he called attention to the case of a nobleman in whom epileptoid convulsions were preceded by a fœtid smell only perceptible to himself; also to that of an old drunkard, who sneezed for two or three years for a quarter of an hour each day, and finally died suddenly. On post-mortem, there was discovered hypertrophy of the heart.[*] In another place he tells of a man of forty, an habitual drinker, who suffered for some time from dyspnœa (asthma), with frequent and severe fits of sneezing. One day, in a paroxysm of sneezing, he felt a sudden contraction of the heart, sneezed once more, and died.[†]

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* "Diss. de consensu part. corp. humani," Gott., 1749; also in Haller's "Collect. dissertat. pract.," vol. vi, No. 220.

† "De sedibus et causis morborum," epist. xiv, 28.

In 1761, H. Boerhaave,[‡] speaking of sneezing in connection with intestinal parasites, makes the assertion that if a healthy man fasts longer than is his wont, he feels a disagreeable sensation about the præcordia, *sneezes*, and then vomits. Following Avicenna, he compares the sneezer to the epileptic. In the same year Thomas Bartholini[#] tells us that, after phlebotomy, when the wound is closed and the cicatrix is yet tender, some are taken with sneezing. In commenting on this remarkable association, he states that he has observed sneezing during coitus. Bartholini also reports[‖] an interesting case of a gentleman who suffered from chronic coryza, which rendered sleep and respiration difficult. The cause of the dyspnœa was an oblong, rounded, smooth, white membranous vesicle filled with serum, which at times hung out of the nostril, which could be returned by pressure with the finger, and which interfered with smell and respiration. He goes on to say that the patient experienced relief from the use of sternutatories taken at the advice of friends, and adds that the remedy in such cases is to lie on the side opposite to that of the obstructed naris. In commenting on the diagnosis of the case, he says that Erastus observed that the mamillary processes (olfactory lobes) were protruded into the nose in epilepsy, and concludes that these vesicles are found in the place of the caruncles in the spongy bones (doubtless the corpora cavernosa).

In 1765 appeared a thoughtful treatise on nervous diseases by Robert Whyte,[△] of Edinburgh, in which he calls attention to the fact that "several delicate women, who could easily bear the smell of tobacco, have been thrown into fits by musk, ambergris, or a pale rose, which to most people are either grateful, or at least not disagreeable" (p. 125). He also mentions similar antipathies in regard to cinnamon and other substances.

Whyte alluded to the sympathies between the larynx, pharynx, and ear, and advanced the doctrine that the impressions made upon the terminal filaments of the nerve (as, for example, in ear cough) must be first referred as a particular feeling to the sensorium commune before being reflected to other parts of the body. He thus made an important step beyond the older doctrine, which ascribed sympathetic affections to the communications between the nerves themselves.

One year later, Daniel Wilhelm Triller, in his curious work,[*] dwelt upon the so-called idiosyncrasy of olfaction in regard to roses and violets, and related two cases—one of a noble bride, who, sitting surrounded by roses, and weaving them into garlands, became suddenly prostrated, and, falling into the arms of her attendant, who rushed to her assistance, was soon lifeless; the other (described at great length), the history of a case in which death occurred from the odor of violets in a closed chamber.

In the same year the association of stomachic irritation with coryza was discussed at length by Schroeder and May,[†] and Robert Boyle,[‡] in the edition of his work on exhalations, etc., published in 1776, treated briefly of the accidents arising from the odor or presence of roses, and toward the close of the last century a number of dissertations appeared on idiosyncrasy in general, in which the antipathy of certain persons to roses is mentioned, and of which the pamphlet of Rahn[#] is the most complete and original.

Rahn collected a number of cases from the "Acts and Ephemerides of Natural Curiosities," and from other sources, and founded upon them an interesting dissertation, in which, among other things, he mentions (quoting from the "Journal de médecine," tome xxv, p. 442) hemicrania from disease of the nose in the following sentence: "*Aliquando periodicam hemicraniam coryzæ antecedunt et ægros fallunt, ut hanc pro illius causa habeant cum tamen spastica utriusque sit origo.*" He explains the sympathies of the nose (on the nerve theory of Willis and Vieussens) by the intimate connection between the nasal nerves and the intercostals (of Willis).

A number of special treatises followed the *brochure* of Rahn, which added little or nothing, however, to what was already known upon the subject, and consisted for the most part of the transcription of the views and cases of those which preceded them. The most elaborate of these are the dissertations of Michell[‖] and Veegens.[△] To these writers I am indebted for reference to a very interesting case of catarrh with convulsions and hemicrania from disease of the uterus and ovaries observed by Bauhin,[*] and to one reported by Zimmerman, in which acute pain in the nose followed excessive venery (tribadismus). Veegens devoted considerable space to the sympathy of the stomach and nose, borrowing a great deal from Rahn without acknowledgment.

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[*] *Op. cit.*, xxvii, 28.

[†] xiv, 27.

[‡] "Prædilectiones academicæ de morbis nervorum," etc., Lugd. Bat., 1761, tom. ii, p. 835.

[#] "Historiarum anatomic. et medic. rariorum.," cent. v et vi, Ed. Hafniæ, 1761, v, p. 184.

[‖] Cent. vi, pp. 260–262.

[△] "Observations on the Nature, Causes, and Cure of those Diseases which have been commonly called Nervous, Hypochondriac, and Hysteric." Second ed., Edinb., 1765, p. 125.

[*] "Opuscula medica ac medico-philologica." Francofurti et Lipsiæ, 1766, vol. i, Diss. ix, p. 237 *et seq.*

[†] "Diss. de amplitu generis febris billiosæ." Gotting., 1766, § 12.

[‡] "Exercitationes de atmosphæris corporum consistentium; deque mira subtilitate, determinata natura ac insigni vi effluviorum." Lugd. Bat., 1776, cap. vi, p. 213 *et seq.*

[#] "Exercitationum physicarum de causis physicis miræ illius, tum in homine, tum inter homines, tum denique inter cetera naturæ corpore sympathiæ secunda." Turici, 1788. Rahn quotes from Baumer the case of a youth taken with periodical emprosthotonus from the odor of musk.

[‖] In Schlegel's "Sylloge selectiorum opusc. de mirabile sympathiæ quæ partes inter diversas corporis humani intercedit." Lipsiæ, 1787.

[△] "Diss. inaug. med. de sympath. inter ventriculum et caput, præcipue in statu præternaturali." Lugduni, 1784.

Ias[†] (1784), and afterward Schmidt[‡] (1795), discussed at great length the same subject, without adding anything novel or of special interest. The latter, however, refers to the well-known sympathy between the nose and eyes in the case of sneezing from sudden exposure to light, and adds that "many diseases of the eyes may be cured by errhines."

In 1785 Tissot[#] called attention to the fact that very violent paroxysms of migraine are sometimes terminated by slight hæmorrhage from the nose, and related the case of a man of his acquaintance, an habitual sufferer from migraine on the same side in which he had a polypus in the nose, to which it owed its origin.[‖] To Tissot I am indebted for reference to two interesting cases of migraine. The first is taken from the "Sepulchretum" of Mangetus.[△] A woman complained of a migraine of the right side. Bleeding, cephalic pills, etc., were of no avail. She asserted that she felt a vertigo with each movement of the head, and that it felt like a bladder filled with water. Vesicatories were placed behind the ears, and tents dipped in a volatile essence were introduced into the nostrils, which latter produced a prodigious discharge of serum and the cure of the affection. The second is taken from Sauvages: A soldier received a wound of the head at Strassburg, and suffered from terrible migraine for three years. The disease resisted all remedies, but was finally cured by an abundant discharge of pus from the nose, lasting twenty-four hours. Tissot includes this case under that variety which depends on disease of the accessory sinuses.[◊]

In 1790 Testa[‡] related the case of a woman who had never menstruated, and who was taken every third day with a paroxysm of sneezing so that she could neither eat, drink, nor sleep.

In 1797 we find Darwin[‡] reporting a case of nasal polypi due to the irritation of worms in the intestines, and in 1801 Gruner[‡] alludes to sneezing in hysterical women as a prodrome of the attack, and in retention of the afterbirth; to the same reflex in the dissipation of cough, hiccough, and allied evils; to its occurrence in those suffering from hernia, in pregnancy, and skin eruptions. This writer says[*] the nose becomes warm and red in the hysterical, in women at the menstrual period, and in the victims of onanism.

In 1802 Heberden[†] observes that "a large suppuration of an inflamed sore throat has been attended with a considerable quantity of pus at the bottom of the vessel which held the urine, for three or four days. As soon as the abscess broke and discharged itself, this purulent appearance in the urine ceased." Heberden, as is well known, was supposed to have approached very nearly the discovery of the disease known as "hay fever."[‡]

In 1804, Deschamps[#] maintained the view that hemicrania was a disease of the frontal sinus, and related some experimental observations illustrative of the great sensibility of this cavity; and in the same year Portal[‖] observed that he had seen pains, vertigo, and even epileptic affections, in connection with disease of the nasal membrane, and referred to a case accidentally cured by the fumes of cinnabar, given with other intention.

In 1818, Josef Frank,[△] in his chapter on headache, says: "*Nares plerumque siccæ, aeri imperviæ, nonnunquam serum acre largientes. Sapor interdum deletus, sæpe deprivatus, amarus scilicet, acidus, quandoque metallicus. In nonnullis, screatio frequens, stridor dentium, tumor parotidis. Loquela nonnunquam interrupta,* etc." Frank also called attention to what he termed rheumatic or catarrhal vertigo.[◊]

This brings the history of the pathological nasal reflex down to the year 1819, when the affection known as "hay fever" is supposed to have been discovered by Bostock. That this latter disease was probably recognized centuries ago, I have endeavored to show in a former publication,[‡] in which is given what may be considered its earlier literature. Those who desire to investigate also the ancient history of the nasal "idiosyncrasies" may consult this article and also the list of essays and cases embodied therein, which have been selected from a large number of dissertations and contain the gist of what is known upon the subject.

As, in the foregoing historical study, I have had no guide beyond my own literary notes, the task has been a laborious one, and one which I feel has been but imperfectly accomplished. If, however, I shall have rescued from oblivion a portion of the older literature of the subject, or shall stimulate others to more elaborate and exhaustive research, my labors will be abundantly repaid.

The preparation of both historical sketches would have been impossible were it not for the unrivaled facilities for literary research offered by that monument of industry, the library of the Surgeon-General's Office at Washington; and I desire to acknowledge my indebtedness to the authorities of that institution for special privileges in gaining access to many rare works which otherwise would have been inaccessible.

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[*] This case is also in Lieutaud's "Histor. an. med.," Obs. 1507, vol. i.

[†] "Diss. de mirabili quæ pectus inter et ventriculum intercedit sympath." Lugd. Bat., 1784.

[‡] "Diss. inaug. de consensu part. corporis humani inter se." Halæ, 1795.

[#] "Œuvres." Lausanne, 1788, vol. ix. "Traité des nerfs et de leurs maladies." A Genève, 1785, chap. xxii. "De la migraine," p. 105.

[‖] *Op. cit.*, p. 169.

[△] Tom. i, p. 16.

[◊] The dependence of migraine on the presence of parasites in the nostrils has been familiar for centuries. See Ploucquet, "Literatura medica digesta," tom. iv, p. 314, and note 1, p. 216. Ludwig Frank, "Med.-chir. Ztg.," Salzburg, iv Bd., 1815.

[‡] "Bemerkungen über die periodische Veränderungen, etc.," Leipsic, 1790, p. 225.

[‡] "Zoonomia," part ii, vol. 2, p. 73, Phila. ed., 1818.

[‡] Christian Gottfried Gruner, "Physiologische u. pathologische Zeichenlehre," etc. Jena, 1801, p. 122.

[*] *Op. cit.*, p. 377.

[†] William Heberden, "Commentaries on the History and Cure of Diseases," London, 1802; also published in Latin, chap. 101, p. 472.

[‡] *Op. cit.*, chap. 24, pp. 135, 136.

[#] "Traité des mal. des fosses nasales," etc., Paris, 1804.

[‖] "Cours d'anat. méd.," etc., Paris, 1804, t. iv, art. "Nez," p. 491.

[△] "Praxeos medicæ universæ præcepta," Lipsiæ, 1818, pars ii, vol. i, sect. i, cap. 2, § viii, p. 162.

[◊] *Op. cit.*, p. 547.

[‡] "Am. Journ. of the Med. Sci.," January, 1886.

PTOMAINES.*

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When one looks back over the fields of scientific research, he can not but be impressed with the marvelous progress which has been made within the past few years, much of which has contributed both directly and indirectly to the enrichment of our own profession. To no two departments is this more truly applicable than to those of chemistry and biology. Less than half a century ago all that was definitely known of chemistry could be included within the pages of an ordinary text-book; but so vast have become the fields of exploration, so complex and diverse the subjects for study, and so numerous and zealous the investigators who have appeared of late, that even the chemical specialist is overwhelmed and discouraged, and must either content himself with a synopsis of the general science or devote all his energies to some one branch. And even here we find the same difficulty, for in many instances the enthusiastic searcher after truth, delving ever more deeply into the mysteries of his favorite science, finds himself at last either alone in his narrow burrow, or accompanied by one or two companions possessed of an ardor equal to his own. One of the most valuable results of biological research is the discovery of that vast class of minute cryptogamic organisms collectively known as microbes, which subject has already been most ably presented to this society by Dr. Cushing, of Boston, and has at different times been discussed *pro* and *con*, though I regret to say there are some members who still withstand the powers of proselytism. The question which I wish to present this evening—viz., that of ptomaines—is a chemical one, though intimately connected with the subject of bacteriology, of which, in fact, it is but another step in advance, and which at the same time, I think, makes the relationship between microbes and disease more intimate, and possibly in a large degree aids in elucidating the manner of action of these minute forms of life in the production of the various disordered conditions which constitute our recognized maladies. When I decided upon ptomaines as the title of my essay, I had hoped to treat of the subject thoroughly and fully, and concluded that this would probably be a comparatively simple matter, since most of the knowledge concerning them is of rather recent date, and the investigators who have busied themselves with the study of these bodies are few in number. When, however, I began to consult the literature of ptomaines for the purpose of collecting data, I found that, although of intense interest, it was more so to the physiological chemist than to the practical physician, dealing as it does with the more complex radicles of the higher organic series, and, in order to comprehend it, requiring no small knowledge of the properties of amines and their numerous compounds. Yet there is much which is of both interest and importance to us as physicians, and it is to these points that I beg to call your attention this evening, even though I should no more than outline their bearing upon the studies of ætiology and symptomatology, and the necessity of an intimate acquaintance with their properties and deportment in the science of forensic medicine.

It has long been known that the flesh of animals which has passed, in the course of its alteration, that condition known as "high," so eagerly sought for by epicures, and entered fully upon the process of putrefaction, becomes unfit for use as food, not alone on account of the disgust which it inspires in us through our olfactory and gustatory nerves, but because it becomes endowed with properties truly toxic, giving rise to symptoms of an irritative character—such as vomiting, purging, pain, and at times collapse. The exact nature of the poisons which produce these symptoms has, however, remained a matter of doubt until quite recently, when chemists, having turned their attention to the matter, instituted a vast number of investigations with the most gratifying results.

Among the first of those who attempted to solve this problem was Kerner, who, in 1820, pointed out the resemblance between the symptoms of poisoning by sausages and those produced by atropine. He, however, finally abandoned the idea of an alkaloid being the toxic agent, and attributed the symptoms to the fatty acids present. Gaspard and Stich, in 1822, also devoted themselves to the study of the venomousness of cadaveric extracts, but accomplished little in the way of true scientific results.

The credit of first dealing with a pure chemical poison obtained from putrid flesh appears to belong to Panum, a Danish chemist and physiologist, who, in 1856, showed that the putrid matters contained a poison of such virulence that five or six centigrammes were sufficient to kill a small dog. As regards its activity, he compared it to serpent's poison or curare. He maintained that it was neither volatile nor destructible by heat at 100° C., that it was not of an albuminoid nature, was soluble in water, but not so in absolute alcohol. When administered to animals, it gave rise to violent inflammation of the mucous membrane of the small intestine.

Weber, Hemmer, Schweninger, Stich, and Thiersch, by their investigations, concluded that the poison was of a chemical nature, though they did not attempt to isolate it. In 1868, Bergmann, at first alone, and afterward in company with Schmiedeberg, succeeded in extracting from the yeast of putrid beer a small quantity of nitrogenous crystallizable substance, which exhibited a toxic action when administered to dogs and frogs. This they called "sepsine," and, believing that they would find it in septicæmic blood, attributed to it the disorders of purulent infection. But their attempts to extract it from blood gave contradictory results, and "sepsine" was soon in its turn placed in doubt and almost forgotten.

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* Read before the Hartford, Conn., City Medical Society, June 6, 1887.

Bence Jones and Dupré at about the same time professed to have obtained from various animal tissues a substance which, on account of its assuming a fluorescent appearance when treated with dilute H_2SO_4, they called "animal chinoidine." These investigators, however, also failed to isolate their "alkaloid," basing their conclusions merely upon one physical property possessed by its solution—viz., fluorescence.

The following year, 1869, Zulzer and Sonnenschein announced having derived from macerated bodies a poisonous nitrogenous compound which possessed mydriatic properties, and which upon this account they compared to atropine. It also caused paralysis of the intestinal muscular coat, and increased the action of the heart.

Rörsch and Fasbender also obtained, both from alkaline and acidulated mixtures of cadaveric parts, a non-crystallizable body which exhibited the same properties as digitaline.

At about the same time Schwanert, in the course of a chemico-legal investigation, obtained from the abdominal organs of a body an oil with strongly basic qualities, which exhaled an odor of propylamine. This body could not be found in fresh cadavers. Other compounds were also met with in the viscera of human bodies which resembled coniine in some of their reactions, but which failed to fulfill the requirements of this alkaloid in all respects. Some of these substances were extremely toxic.

The foregoing was practically the extent of the work which had been done in this line of chemical research at the time when François Selmi, Armand Gautier, and Professor L. Brieger took up the subject. As can readily be seen, the results were open to criticism, since many of the tests were undoubtedly made with impure extracts and solutions in which various alkaloids were probably present, no one as yet having taken the pains to determine definitely the qualitative and quantitative composition of the substances under consideration. In 1870 Gautier began to investigate the cause of the alkaline reaction which developed in albuminoid matters when permitted to putrefy or ferment spontaneously. He noticed that when urine, normally acid, was distilled, the distillate which passed over and was collected in the receiver contained some trimethylamine. This, together with the fact that blood fibrin, when exposed under water during the summer months, gave rise to a small quantity of complex alkaloids in addition to a number of known bodies, led him to conclude that the alkalinity of putrefying liquids was not alone due to ammonia.

It was at about this period that Selmi, in the course of a medico-legal examination, extracted from the viscera of a man an alkaloid which could not be identified with any compound then known. Two years later he presented a communication to the Academy of Sciences of Bologna, in which he maintained that substances acting like vegetable alkaloids were found in the stomachs of persons who had died a natural death. He, as might be supposed, met with vigorous opposition from scientists, who suggested that the compounds might have been derived from vegetable matters remaining in the digestive canal, or from medicines administered during the sickness of the deceased, or that they were some of the pseudo-alkaloids, such as creatine, creatinine, choline, etc. These he refuted in an article which he presented in 1877, in which he stated that he had been able to procure two alkaloids from decomposed pure albumin.

Unfortunately for science, the valuable work of Selmi was brought to an end by his untimely death, but not, however, until he had succeeded in isolating a number of alkaloids whose reactions and effects were easily confounded with those of morphine, coniine, atropine, and delphinine, and had instituted an elaborate series of tests for the purpose of ascertaining their color reactions, some of which were supposed to be characteristic of ptomaines until proved by other authors to be equally indicative of the presence of certain vegetable alkaloids.

Hence it is that we are obliged to turn to the writings of Gautier and Brieger for most of our information on this subject. The former, in company with Etard, by a rather complicated chemical process, which it is unnecessary to detail here, extracted from bacterian decomposition of mackerel and the flesh of the horse a base which was liquid, almost colorless, with an odor suggestive of syringa, and giving the formula $C_8H_{12}N$; this he called hydrocollodin; and from the same source a second compound, which proved to be an isomer of parvolin. (This latter belongs to the pyridine series, which are non-oxidized, volatile bases, metameric with aniline and its homologues.) It is an oily base of an amber color, and with an odor resembling that of hawthorn, slightly soluble in water, while alcohol, ether, and chloroform dissolve it readily. On exposure to the air it becomes brown and resinous. It forms crystallizable salts with platinic chloride, and furnishes the formula $C_9H_{13}N$.

To these last-named authors, then, belongs the credit of having first established, scientifically, the true nature of the known ptomaines, and of assigning to them their proper places in organic chemistry. Guareschi and Mosso obtained from putrid fibrin of beef a ptomaine with the formula $C_{10}H_{15}N$, which in its physiological action resembled curare. Other Italian chemists pointed out in decomposing corn a base resembling strychnine in its reactions. But the works of Brieger have been among the most exhaustive, as well as the most fruitful in results, since he has added a large number to the list of known cadaveric alkaloids.

Without describing the various processes of manipulation necessary for the separation of these compounds, which would lead us from the province of medicine into that of chemistry, it will perhaps suffice to mention briefly some of the products whose identity he has established. From decomposing flesh he obtained neuridine, $C_5H_{14}N_2$, and neurine, $C_5H_{13}NO$, the latter being a normal constituent of the brain, and differing from choline, a constituent of the brain and bile, by one molecule of water. From decomposing fish he obtained several compounds, among them an isomeride of ethylenediamine, which was poisonous; also muscarine, a still more toxic body; and gadinine, which is physiologically inactive. Thoroughly rotted cheese yielded neuridine, while from putrid yeast dimethylamine was extracted. Turning from the study of the decomposition products of these various substances, he gave his attention to the derivatives of the human subject when the latter had been acted upon by bacteria, and in a comparatively short time had augmented the list of cadaveric poisons by the following: Cadaverine, $C_5H_{16}N_2$; putrescine, $C_4H_{12}N_2$; saprine, which is isomeric with the latter but different in its reaction; mydaline, and several others.

Mydaline is stated to have a perfectly specific action, and is of interest on account of its producing a marked elevation of temperature. It is, perhaps, a noteworthy fact that, as a rule, most of these compounds did not occur simultaneously in the same mass, but the disappearance of one was followed by the formation of another.

The characteristics of some of the known ptomaines, as given by Gautier, show them to be for the most part colorless, oily liquids, very alkaline, completely saturating the stronger acids to form crystallizable salts, and some even attracting CO_2 from the air. Some exhale a cadaveric odor, while others resemble musk, hawthorn, and syringa, or the agreeable aroma of oranges. Their taste is for the most part piquant, tending to produce a local numbness of the tongue, the sensation passing on to a feeling of suffocation when too large a quantity has been swallowed; while others possess a decidedly bitter taste.

Gautier instituted a number of experiments upon the lower animals in order to determine the physiological action of some of these bodies, as also their degree of venomousness. A grain of an aqueous solution of one of them, when injected subcutaneously into a dog, produced irregularity of the pupils, convulsive movements, increased action of the heart, injection of the pinna, slight elevation of temperature, spasmodic contraction of the facial muscles, retardation of respiration, and in forty-five minutes death. On opening the thorax, the left heart was found irregularly contracted and empty, while the right contained liquid blood.

Of a second set which was extracted by amyl alcohol, he injected a small portion into a frog, producing a loss of muscular power, dilatation of the pupils, abolishment of cutaneous sensibility, and death with general muscular relaxation. These are but two of a large number of experiments made by Gautier, but they suffice to show that some of the ptomaines at least are poisonous in a high degree, and that the cessation of muscular contractility, even under electrical stimulus, is vividly suggestive of the action of some of the poisonous mushrooms. Still another extract, when introduced in small quantities under the skin of a bird, caused bristling of the feathers, staggering and frequent falling, tetanic convulsions and opisthotonus, and in fifty-eight minutes death, the heart being stopped in diastole and filled with blood. According to the observations of this same author made upon the venom of serpents, the cobra poison resembles the last-described ptomaine, except that it arrests the heart in systole and leaves it exsanguinated.

Such being in brief the main points in the evolution of the study of ptomaines, in giving which I have endeavored to adhere closely to well-established facts, let us see what application can be made of the knowledge acquired of the action of these bodies in explaining some of the phenomena of disease. And here shall we find an almost unlimited field for speculation.

Let us take as our first illustration that condition so commonly met with, the main characteristics of which are anorexia, coated tongue, general malaise, irregularity of the bowels, with sometimes headache and vomiting. To this we are accustomed to hear the term "biliousness" applied; and a person suffering with such symptoms, if he does not medicate himself by swallowing one or two blue pills on going to bed, and the next morning follow it up with a dose of salts to rid the system of the mercury, lest he "take cold," will call upon his physician and receive practically the same diagnosis and the same treatment. That the term "bilious" is a favorite one, with both the profession and the laity, is evident from the promiscuous and unmeaning manner in which it is used; it satisfies both, but explains no more fully the true state of affairs within the abdomen than the expression which is apt to follow it, and which is considered as completely clearing up all obscure points in any way connected with the subject—viz., that "the liver is torpid." Now, I think most authorities agree that the bile has little if anything to do with producing the so-called "bilious state"; certainly no evidence has ever been brought forward to prove that it is the guilty party, while much goes to show that it is not. Normal bile is said to be devoid of bitterness, yet that which is ejected from the mouth during vomiting is intensely bitter, indicating the presence of some abnormal ingredient in this fluid, which probably is itself accountable for the production of emesis; the popular belief that it is the existence of "bile on the stomach" being known to be incorrect, since its regurgitation from the duodenum is secondary to and dependent upon the violent muscular contraction necessary to produce vomiting.

Knowing that bacteria will produce ptomaines in albuminoid substances outside the body, is there anything irrational in supposing that they may continue this action after the ingestion of proteid matters containing them? The *Sarcina ventriculi* certainly exists in the stomach under certain conditions, and associated with its presence we find fermentation taking place with the generation of putrefactive gases, such as CH_4 and H_2S, while many other forms of microbes which are unable to exist in the acid secretions of the stomach will live and flourish in the alkaline intestinal juices. Brunton, in referring to this subject, says: "If we digest a piece of meat with pancreas for twenty-four hours at the temperature of the body, we usually find that not only has the meat become dissolved and peptonized, but that the peptones themselves have undergone a further decomposition, and that leucine, tyrosine, naphthalamine, and a substance termed indol—nearly allied to indigo, but with an abominable smell—have been formed. Indol is not a product of the decomposition of nitrogenous matter by the pancreatic ferment; it is due to decomposition caused by the presence of putrefactive bacteria." Moreover, it seems to me that the *rationale* of the popular treatment by mercurial preparations lends support to the views expressed above, for I think it has been definitely proved that the salts of mercury are in no wise hepatic stimulants, though they are cholagogues in so much as they sweep out the ready-formed bile; hence they are inadequate to arouse the torpid liver and cause the production of biliary secretions. It seems rather as though their beneficial action should be explained in one of the following ways: either by their purgative powers they remove the fermenting mass *in toto* from the intestine; or, by acting as germicides, destroy the organized ferments; or, by setting free the imprisoned bile, permit this latter substance to serve as the antiseptic and arrest the production of ptomaines. But Brieger has gone still further. The statement having been made by some authors that many of the peptones were endowed with poisonous properties, he instituted a series of investigations, and succeeded in extracting from solutions of these bodies an alkaloid. By macerating moist fibrin with fresh gastric juice, obtained from the hog, for twenty-four hours, at the temperature of the body, he obtained peptones which were free from all traces of putrefaction and contained no trace of phenol, indol, or any of the aromatic oxygen acids. From these he dissolved out, by means of amyl alcohol, an alkaloid which he named "peptotoxine."

In order to determine its physiological action, he introduced a few drops of a dilute solution into the circulation of a frog, with the following results: The animal lapsed into a sort of paralyzed condition, during which it was insensible to marked stimulation. Slight fibrillar twitchings were perceptible in the extremities, the pupils showed no special change, and within fifteen minutes the frog was dead, the final change being almost inappreciable. When some of the substance was introduced subcutaneously into a rabbit, the results were identical. A gradual paralysis affected the hind legs, the animal sank into a soporous state, and died in a few minutes. A knowledge of this fact has been utilized by Brunton to explain the feeling of muscular weakness and lassitude, and the disinclination for mental or physical exertion so often experienced by persons after immoderate indulgence in a meal composed largely of nitrogenous articles of diet; and in treating of the subject he points out the similarity of these symptoms to those produced by curare poisoning. But the question may be asked, If toxic bodies are so readily generated in the alimentary canal, why is it that we so rarely meet with cases of serious poisoning from this cause? To this there are two answers: 1. Whatever be the source of the ptomaines, whether arising from intestinal or gastric fermentation, or introduced into the stomach from without in the shape of putrid cheese or imperfectly canned meats, there is probably always generated, not only a solitary poison, but several, some of which are antagonistic to one another in their physiological effects and act as reciprocal antidotes, in part at least, the visible effects being due to the preponderance of the action of one or another over that of the remainder. The second answer is based upon the known functions of the liver. This organ, in addition to its other offices, acts, as Lauder Brunton has aptly expressed it, like a watchful porter, and substances which enter into the portal circulation are arrested by the hepatic tissues during the secretion of bile, and emptied again into the intestines through the ductus communis, so that their absorption into the general circulation is greatly retarded, and an opportunity furnished for their excretion and elimination from the body. As an instance of such, Brunton cites the well-known fact of the innocuousness of such powerful poisons as serpent venom when swallowed, while a small quantity suffices to kill when introduced through a wound.

Since the putrefactive bacteria are capable of producing toxic basic compounds from the transformation of proteid matters, as we have already seen, is there anything unreasonable in supposing that the pathogenetic microbes are equally endowed?

Without stopping here to question whether we are correct in assuming germs to be the exciting cause of disease, let us, for the sake of argument, admit that they are the active agents, and pass on rather to a study of the physiological effects of their presence when once they have gained an entrance into the system. Here, again, I beg leave to refer to Lauder Brunton * for an illustration, even at the risk of repeating what is perhaps already familiar to many of you, since his experiments are among the most interesting and possibly the most practical of any that I can call to mind. While in search of a remedy for cholera, he reasoned that if he could find an alkaloid producing symptoms resembling those of this disease, an antidote might be discovered which would be serviceable in the treatment of the same. Bearing in mind the post-mortem appearances which obtain in the bodies of those who have succumbed to cholera—viz., the repletion of the thoracic and abdominal veins and the distension of the heart, while the vessels near the surface of the body are but imperfectly filled, also the symptoms to be noticed during the height of the malady, viz., extreme dyspnœa and watery dejections—he was inclined to attribute these disturbances to interference with the sympathetic nerves. Dr. George Johnson thought that a contraction of the pulmonary vessels by arresting the circulation through the lungs accounted for the state of the heart and larger veins, as also for the occurrence of dyspnœa, and in fact they might; but, unfortunately for this theory, it is not certain that the right heart is dilated during the life of the patient. During his investigations on the subject of paralytic secretion, M. Moreau caused an animal to fast for twenty-four hours so as to completely empty the intestines, after which he isolated certain portions of them by ligatures and divided the mesenteric nerves leading to one of the loops tied off in this manner. After several hours he killed the animal, and upon examining the intestine found the portion which had been paralyzed filled with a liquid resembling rice-water, while the other portions were empty, showing conclusively that the secretion was due to division of the nerves. Professor Kühne analyzed this secretion and found it identical with the rice-water discharges of cholera. Brunton, on the supposition that Johnson's theory was correct, experimented with muscarine—the poisonous principle of mushrooms—and succeeded in producing, in animals whose thorax he had opened, the post-mortem appearances of cholera as regards the heart and large veins, all of which disappeared completely upon the administration of atropine. But when he attempted to apply this method for the relief of the intestinal lesions, and injected atropine into a loop of the bowel which had been paralyzed after Moreau's method, his results were disappointing. Yet Dr. Saunders, of Kentucky, maintains that the use of atropine in cholera is productive of much benefit. Unfruitful as these investigations were toward discovering a specific for cholera, they nevertheless seem to establish the fact that the cause of the choleraic stools is a paralysis of the mesenteric nerves, and very probably the paralysis is due to the absorption of a ptomaine.

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* "Disorders of Digestion," by T. Lauder Brunton.

The symptoms of idiopathic and traumatic tetanus are practically the same, both seeming to point to some irritation of the reflex centers of the medulla oblongata and spinal cord. The theories which have been brought forward to account for the occurrence of this disease are exceedingly unsatisfactory, as, for example, reflex irritation due to pressure on a peripheral nerve by a cicatrizing wound; "catching cold," a meaningless term, but a most successful loop-hole for escape when one is unwilling to admit his ignorance as to the cause of disease; or the statement we find in Bartholow to the effect that many competent judges supposed "cold water as a dressing for wounds during the rebellion was responsible for many cases." When tetanus follows an injury there is usually an interval of considerable duration before the convulsions manifest themselves, and I can see nothing fanciful in supposing that during this time a poison is being elaborated which, by its absorption, would produce nervous phenomena resembling those of strychnine. That reliable and perspicacious authority, Austin Flint, in his "Practice of Medicine," says there is "a strong point in favor of the supposition that the disease involves the presence in the blood of a toxical agent acting upon the spinal cord and medulla oblongata." Moreover, no constant pathological lesion has ever been described, while from tetanus cultivations a strong base called tetanine ($C_{13}H_3N_2O_4$) has lately been obtained, and, furthermore, the disease exists endemically in some localities. If this is not confirmatory, it is at least suggestive.

From cultivations of the typhoid bacillus a ptomaine has also been extracted which proved fatal to small animals within twenty-four hours. When we consider the course and clinical picture of many cases of lobar pneumonia in which the disparity between the pathological changes and their alleged effects is often most marked, it is difficult to reconcile these severe symptoms with the idea of a simple inflammation of the lungs. In broncho-, or lobular, pneumonia, in which both lungs are commonly affected with a true inflammation, we rarely, if ever, see such profound disturbances as obtain during an attack of lobar pneumonia, even though but a small portion of lung is involved. The mental hebetude or perturbation; the abeyance of the renal functions; the distressing dyspnœa, notwithstanding the lesion is limited in extent, and especially the fatal tendency to cardiac paralysis; but the sudden defervescence at the time of crisis often after a preceding rise of temperature, together with the general disappearance of the morbid symptoms—are strongly indicative of the presence and influence of some toxic agent, the cause of which is possibly destroyed by the exacerbation of temperature, while the ptomaine or other morbific matter is eliminated during the critical evacuation, which usually appears at that time; as a large urinary discharge, a profuse diarrhœa, a general sweating, or some other form of depuration. And in connection with this it may not be amiss to state that poisons have been extracted from the excretions of persons suffering from different diseases. According to Lépine and Guérin, the urine in different diseases contains poisons differing from one another in their physiological actions. From the urine of both typhoid fever and pneumonia two extracts have been obtained, either of which will produce death; but, whereas one leaves the heart in diastole, the other leaves it in systole.

In 1881 Gautier announced that there appeared in a constant manner in the excretions from living animals in full health, also during disease, although in very different proportions, as Bouchard had shown, bodies of the nature of ptomaines. He has found like alkaloids in saliva and venom, and to them he gave the name of leucomaines in order to distinguish them from the cadaveric poisons. Some of the compounds obtained and analyzed by this author are xantocreatinine ($C_5H_{10}N_4O$), crusocreatinine ($C_5H_8N_4O$), amphicreatine ($C_9H_{19}N_7O_4$), and pseudoxanthine ($C_4H_5N_5O$); they were all extracted from fresh tissues and possessed poisonous properties.

We have been taught to look upon Bright's disease as a local affection of the kidneys, and upon urea as accountable for most of the general symptoms. Others, in order to explain the cardiac hypertrophy, maintain that the urea is decomposed and transformed into NH_4CO_3, and ascribe the heart changes to its stimulating effects. This may answer when the hypertrophy succeeds the renal changes, but will hardly pass when the reverse is the case or when they occur concomitantly. At present, however, I think the consensus of opinion is being modified, and some forms at least of Bright's disease are beginning to be classed as general diseases of the arterio-capillary system. Here, too, we may find the cause to lie with some irritating ptomaine or leucomaine.

I might continue to cite various diseases—as rabies, anthrax, and the contagious maladies—in illustration of this subject, but to do so would encroach unduly upon your time and patience, while enough has been said to show how fertile is the topic for research and speculation. To question the influence of bacteria in the production of fermentation and putrefaction, which is simply nitrogenous fermentation, at this late day, would be merely a waste of words. That spontaneous fermentation can not take place without the intervention of these active agents is as well established as that the earth moves. The investigations of Dumas and Pasteur on this subject, as also the experiments of John Tyndall on spontaneous generation, have rendered it indisputable. As to ptomaines, Gautier states that there is always produced in the course of the putrefaction of animal tissues a certain number of poisonous alkaloidal substances, which form at the expense of the albuminoid materials.

When we come to apply this to disease, however, opinion differs. Yet we know that in the case of contagious maladies there is an invisible and intangible something which, existing as it may in infinitesimal quantities, can nevertheless be conveyed by an infected person from place to place, and, provided the soil and other conditions are suitable, give rise to most extensive and fatal epidemics. That this can not be an inanimate chemical substance must be evident to all of us. Given a fixed quantity of dead matter, and you may cause it to pass through any number of mutations, but it will not become self-augmented. Nor, on the other hand, can a germ, by its mere physical presence within the body, give rise to morbid phenomena any more than a piece of glass or a grain of sand under like circumstances. But the germs have life, and in order to grow must be nourished, and, finding a favorable soil, appropriate to their own use those substances necessary for their development, and, in so doing, by-products are formed which may be ptomaines. Whether each ptomaine has its specific microbe, or whether one polymorphous microbe during different phases of its life produces distinct ptomaines, or whether it depends solely upon the nature of the soil, I shall not attempt to say, but will leave it to the members present as a subject for rumination. That the question will meet with opposition is natural to suppose, since all new theories in medicine have their opponents; but it is only by such a course of careful and methodical investigation as the discoverers of ptomaines have made use of that we can hope to see our profession liberated from the bonds of a vacillating empiricism and elevated to the dignity of a true science.

BRIGHT'S DISEASE
AS A COMPLICATION OF SURGICAL PROCEDURES.

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While the frequent sequence of kidney disease to operations upon the genito-urinary tract has been recognized for a long time, the influence of operations foreign to this particular region upon the excretory organs has been almost completely overlooked. The dangers of surgical interference in patients who are already the victims of any kidney involvement are also fully appreciated by all operators. It is true, however, as attested by practical experience, that surgical manipulation, independent of the portion of the body involved, may be the means of setting in motion a disease of the renal glands in patients who are apparently in perfect health. Experience has taught that there is a condition, due to a renal disease following this alteration in the usual duties of the different organs, the symptoms of which so closely resemble those of surgical shock or septicæmia as to be readily mistaken for the one or the other. This is more apt to be the case where a considerable time has been occupied in the operative procedure and the etherization has been continuous and profound. It is true that the kidneys may be slightly affected and yet the examiner not find any evidences of this when he makes the usual preliminary urinary examination. Bright's disease does not absolutely forbid operative procedures, but, when it is present, they should be undertaken only after careful preparation, and then a very guarded prognosis should be given. The administration of the anæsthetic should be confined to as small an amount as possible—a precaution which should be observed in every case, whether there are any urinary symptoms present or not. Sometimes, if an examination of the urine is made daily for several days, some indication of a renal lesion may be found.

There are a number of causes which operate to produce this result. First, the ether; second, the influence of the nervous system; third, the increased blood pressure; and fourth, the increased amount of excrementitious material circulating in the blood, and dependent upon the kidneys for its elimination.

First, the Ether.—Ether produces a defective oxygenation of the blood, which is general. This is evidenced in nearly every operation where this anæsthetic is used, and is one of the means whereby the operator is able to regulate the amount which the patient ought to receive. He notices, as soon as the etherization becomes profound, the well-known physiological fact that the character of the hæmorrhage changes, and only venous blood appears in the wound; showing conclusively that the blood is deprived of its proper amount of oxygen, and is overloaded with carbon dioxide. (See "Renal Diseases," by William H. Porter, M. D., p. 78.)

This condition of the blood often lasts for several hours, and probably persists for a longer period than one would expect without any of its effects showing themselves. During this period the organs are constantly overloaded with insufficiently oxygenated blood. The action of osmosis, so necessary to healthful life, is partially, if not completely, arrested, and the system is flushed with the products of waste that should have been eliminated. The kidneys naturally are involved in this condition of the other organs, and, as they are the chief eliminating agents, they suffer more than any of the other glandular organs. A congestion of these glands at any other time causes a diminution or a complete suppression of the urine, and it is natural to suppose that the same result may follow upon an induced congestion. If the etherization occupies any considerable period of time, as it frequently does, the cessation of the action of the renal glands allows the blood to take up again the quantities of excrementitious matter which would be thrown off under normal conditions. This continues to increase, and when the patient begins to recover and the dormant organs once again take up their proper duties, as the artificial congestion is relieved by the cessation of the administration of ether and the recovery of the patient from its effects, they find themselves called upon to do an increased amount of work. Thus, if a latent disease has been present, it is set in motion again, or a new lesion is instituted by the sudden overwhelming of the renal organs with the products of waste, causing the death of the patient before the glands have an opportunity of freeing themselves from their flushed condition, or before this overplus of material to be eliminated can be taken care of by the other excretory organs. Serious symptoms may show themselves within a few hours, or only after several days, and then they may be so gradual in their approach as to excite but little, if any, suspicion of the real condition. Hence, we find that the patient's condition may resemble shock or septicæmia. It is probable, if we examined the cases in which death has apparently been caused by blood-poisoning following a surgical operation, we should find a serious lesion of the renal glands in a large percentage of them.

In a number of cases which have fallen under my personal observation I have had an opportunity of watching the results from a clinical point of view, and Professor Porter has found an acute parenchymatous inflammation of the kidneys in a number of instances where an opportunity has offered of making an autopsy upon patients who had died after a more or less severe surgical operation. It has happened several times that after the operation was completed, and the patient had fully recovered from the effects of the ether, a diminution or suppression of the urine has been noticed. This has not necessarily been the case when the operation occupied a long time, or the ether was crowded to its full physiological limit, although it has been oftener the result in those cases than when only a short period of time was occupied and the amount of the anæsthetic was small. In those cases where a sample of the water was examined as soon as it could be obtained, it was found to contain more or less albumin and casts, and, when active treatment was instituted, the recovery was continual and apparently complete. In one instance in particular this condition of the kidneys was very marked. Operations were performed for recurrent nodules, at intervals of about six months, upon a patient who had had a carcinoma of the breast removed. The first time coma, simulating shock, came on in a few hours, and was relieved only after heroic treatment directed toward the re-establishment of the renal function; and at each succeeding operation, although they only required a very short time, there was always a recurrence of the albumin and casts, which followed the return of the flow of urine after the first operation.

Even with this added danger from the administration of ether we should not discard it for chloroform, for it still outranks the latter anæsthetic in safety. The action of the first interferes with the centers of respiration, and thus not only gives warning of the impending danger, but, since the heart continues to act after the respiration has ceased, gives time for the surgeon to take measures for the relief of the condition by instituting artificial respiration and the employment of stimulants. The latter, by its direct action upon the heart, is sudden in its onset, and fatal in its results.

The Nervous System.—It is an undisputed fact that the nervous system exercises a very close and potent control over the action of the kidneys. In patients who have suffered some sudden or severe nervous shock, it is not uncommon to find retention, or even absolute suppression, of the urine. This sometimes lasts for quite a time after the outward manifestations of the disturbing influence have passed away. That this is not necessarily due to the presence of kidney disease is plain, since it is quite as frequent in persons who are not victims of any renal complication as in those who are. Nor does it necessarily indicate the inception of Bright's disease, for, when the natural function is recovered, urinary analysis may still reveal no indication of serious inroads into the integrity of the kidneys. It is equally true, however, that if this condition were superinduced upon some one of the forms of Bright's disease, the result might be exceedingly fatal, and, consequently, when this condition exists in patients who are subjected to an interference with the normal function by some surgical procedure, both from analogy and clinical observation we may expect the same result. That a patient who is about to undergo even a so-called slight operation is the subject of great anxiety or apprehension, often amounting even to terror, is a well-known fact. Before he goes to the operating-table the pulse will gradually increase in rapidity and decrease in volume, sometimes becoming irregular or intermittent. The countenance will be blanched and the extremities cold, and everything will indicate a severe nervous strain. When it is considered that this may have continued for several hours or days, it is not surprising that the normal functions are interfered with, and that we have a number of symptoms attributable to the controlling influence of the nervous system. This shows very strongly in those patients who are affected with indigestion, which may begin a few hours or even days before the time for the operation. An instance of this is very common. Patients who have abstained from food for several hours preceding the etherization, and who have lived upon liquid diet for a day or two, will often vomit, as they recover from the effects of the ether, great masses of undigested food. This very condition of indigestion is one more element of trouble, for it naturally shows that the normal function of the digestive organs is disturbed, and this, added to the other conditions, would soon develop danger in itself. When the indigestion has lasted for several days, it is well to be fully prepared for kidney trouble after an operation. I have seen a patient upon whom an operation for lacerated perinæum was to be performed, and who was notified of the date of the operation several days before, who invariably compelled a postponement on account of the return of the flow just as she was preparing to go to the table. Finally, the operation was performed under the supposition that she was only to undergo an examination. The fright existing prior to the operation is greatly intensified during the progress of the anæsthesia, and often persists for some time after the effects of the ether begin to wear away. It is, therefore, no strange thing if in these cases we find suppression or retention of the urine, with all their usual train of symptoms. It may be that, in cases where the nervousness is particularly pronounced, the urine will be free from albumin during the days preceding the operation, but will contain more or less on the morning appointed. Naturally, if this was known, more care would be taken to look after the action of the renal glands, and to see that they performed their normal function properly after the patient had been returned to his bed. But how often this fact, which is recognized by the general practitioners and nearly all neurologists, has been completely overlooked by surgeons who examine the urine a week or a month before the time set for the operation, and, finding it normal, imagine that they have done their whole duty, not remembering that urine voided just as the patient is going to the operating-room may be loaded down with casts and albumin, indicative of a diseased condition of the renal organs.

Blood Pressure.—This becomes an important consideration in cases where a limb is removed, or an important artery ligated. The case of inguinal aneurysm of the external iliac artery reported by Dr. William F. Fluhrer in the "Medical Record" is an illustration of this fact. While this condition in itself would cause disease only in the most exceptional instances, yet, when it is added to the other conditions, it becomes important.

Increased Amount of Excrementitious Material in the Blood and depending upon the Kidneys for Elimination.—This, of course, only obtains in those cases where the attack comes on gradually and the alteration of the renal function is not sudden, but occupies several days. It is easily recognized that, if there is a large wound and the system is taxed to any extent in accomplishing the needed repair, the work thrown upon all the organs of the body must be considerably increased. In other words, that increased action in the part which has been operated upon necessitates an increase in the action of the other parts of the body, and naturally the kidneys are obliged to take up their portion of this additional work. If the interference with the normal function is but slight, all the organs bear their part of the labor with but little trouble, and no signs are noticed save those of the usual shock immediately following the operation and its consequent reaction. A few days pass—a week—and all moves on surely and swiftly to a cure. On the other hand, if the disturbances are considerable, or the recovery from the shock is slow and incomplete, if the nervous system is overthrown, the digestion impaired, repair—if attempted at all—only partially successful, and the exudations from the wound considerable, it is no wonder if the organs of elimination gradually wear out, and finally refuse to carry on their normal duties. In this instance we find the urine gradually diminishing in quantity and finally suppressed. The symptoms point to septic disease; in reality the trouble is in the kidneys, and, if it is recognized in time, the probabilities are that the patient may be saved. It is and has been a recognized fact that it is hazardous to operate upon persons who are subjects of any of the kidney lesions, and when it is necessary to undertake operative measures it is done with great caution and appreciation of the danger.

If, then, when these conditions are known to exist, the gravity of the case is fully appreciated and the necessary precautions are taken, may it not be fully as serious, if not more so, when its appearance is masked under apparent good health, and is only discovered when it is too late to be of any service? So closely do shock and uræmia resemble each other that it is not surprising that many cases are not recognized, which would not be the case if the necessary interrogation of the attendants and catheterization of patients in shock were attended to.

It may be said, and perhaps justly, that this is presenting only one side of the case, and that it is the condition of the patient that has caused the cessation of action on the part of the kidneys. This may be true; but it is also a matter of quite as much importance to get the kidneys acting under such circumstances as though they had been the initial cause of the trouble, and the attention given to them can only assist in relieving the shock.

If, then, these facts are granted, it becomes necessary to know how best to prevent them, or, in case they are present in spite of every care, how to treat them.

The symptoms may be dismissed in a few words, and only depend upon the form in which the trouble first appears. In the one instance, the symptoms are those of shock or coma with absolute suppression of the urine. In the second, they are characteristic of septicæmia or exhaustion, and the urinary symptoms are gradual in their approach. In the first, suppression of the urine is the prominent symptom. In the second, a gradual diminution in the quantity, and a final suppression, if the patient lasts long enough, will be the result.

It should be an invariable rule with every surgeon, no matter how slight the operation or how little anæsthetic he proposes to employ, to carefully examine the urine daily for several days prior to that on which the operation is to be performed. The patient should be instructed to have the bowels acting freely during this time, and should be encouraged to drink copiously of some one of the carbonated waters and milk. If albumin and casts are found, the tincture of chloride of iron should be prescribed, the bowels should be freely opened, and the free action of the skin encouraged by means of warm baths and thorough rubbing. This should be continued for at least a week before the operation. In case much fright is present on the day, the bromides, bromo-caffeine, or some one of the nerve sedatives should be employed. Any anæsthetization in such a case should be in the hands of a skilled assistant rather than intrusted to the inexperienced junior assistant surgeon of the hospitals. Instead of the suffocation method, the patient should be encouraged to breathe naturally, and should be allowed a full breath from time to time. Immediately upon recovery from the ether, Vichy and milk in equal quantities may be given. This at first should be taken by the teaspoonful until the stomach recovers its tone and is able to retain food. A little tincture of digitalis may be added to the milk, and, if exhaustion is very marked, alcoholic stimulants may be employed. The bed should be kept as warm as possible and the room at an equable temperature. Warm bottles should be placed about the body, and perspiration should be encouraged. As rapidly as the tonicity of the stomach is recovered, the quantities of milk and water should be increased, and the patient encouraged to partake as freely as possible of both. The urinary organs should be carefully watched, and, in case no water is passed within a reasonable period from the time of the operation, catheterization should be resorted to and the condition of the bladder noted. This should be impressed upon nurses particularly, as they often consider a retention of urine for a few hours of little or no consequence. The examination of the bladder may reveal, first, retention; or, second, suppression. If the first condition is present, the catheter should be used quite frequently—the instrument being always kept in a carbolized or mercurialized water when not in use. The water drawn should be examined, and if albumin is present the condition of the patient should be carefully watched. If the second condition exists, there should be no delay in applying dry cups to the region of the kidneys, followed by a good-sized mustard plaster, and then by a flaxseed poultice. The patient should be wrapped in warm blankets or the hot-air bath may be used, and, if he is not too much depleted by the operation, a hypodermic injection of one eighth of a grain of hydrochloride of pilocarpine may be administered, and repeated if necessary. Tincture of digitalis and whisky may be given hypodermically or *per anum*, in case it is impossible to administer them *per os* with safety. Careful examination of the urine is as important during the convalescence as it is in the days prior to the operation, for this may enable us to forestall the impending kidney trouble.

THE BUFFALO LITHIA WATERS

IN THE TREATMENT OF

DISEASES OF THE NERVOUS SYSTEM.

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There is no physiological process that is not executed either directly or by reflex action by the nervous system—waking, respiration, deglutition, walking, sleeping; in a word, life itself begins and ends in the medulla oblongata. It is not necessary to look beyond the par vagum to observe the great variety of physiological functions and far-reaching psychical influences exercised by a single nerve. The deduction naturally drawn therefrom that the majority of diseases are referable to derangements of the nervous system, be it through the plexus affected, the sympathetic, or the cerebro-spinal system, is fully established by pathology.

Almost all morbid changes thus find their origin in a neurosis. Neuroses dominate pathology. A remedy therefore suitable to diseases of the nervous system in general—such as neurasthenia, hyperæsthesia, chorea, neuralgia, neuritis, dyspepsia, amenorrhœa and dysmenorrhœa of nervous origin, impotence, sterility and hysteria, cerebral hyperæmia and anæmia, melancholia, paralyses, and cephalalgia—is one to commend itself to the neurologist as well as to the general practitioner. Such an one there is provided by nature in the waters of the Buffalo Lithia Springs of Virginia, a remedy which, independent of drugs and medicines, has alleviated all cases of such character in which it was prescribed, cured many, and been successfully exhibited whenever a revitalizing of the nerve-cells was indicated. Dr. Hunter McGuire was the first to direct attention to the reconstituent powers of the Buffalo Lithia waters. In speaking of Spring No. 2, used in cases of nervous dyspepsia caused by mental over-work, and to quote from his article on the subject: "It has never failed me as a powerful nervous tonic when I have prescribed it as such. I sometimes think it must contain hypophosphites of lime and soda."

The writer, who has had a large experience in the treatment of diseases of the nervous system by these waters, extending over a period of four seasons as resident physician at the Buffalo Lithia Springs, is decidedly of opinion that their chemico-physiological action is analogous to that of the hypophosphite compound, as mentioned by Dr. McGuire. In confirmation of this, Dr. William A. Hammond writes that he has for some time made use of them in cases of affections of the nervous system, stating that his results have been eminently satisfactory, and that he often prescribes Buffalo Lithia water "in those cases of cerebral hyperæmia resulting from mental over-work in which the condition called nervous dyspepsia exists, and generally with marked benefit."

As the limits of a single article forbid the introduction of long lists of cases in detail, it will be impossible to do more than briefly refer to one or two out of some thousands, either treated by myself or that have come under my own professional observation. Cases I and II are selected as being typical of their class of nervous affections:

Case I. *Atonic Dyspepsia.*—Mr. A. presented the following symptoms: Pain in the epigastrium after eating, anorexia and dyspnœa of many years' standing. This patient had been under treatment all that time, the remedies exhibited not only having failed, but also left the gastric membrane in a state of chronic engorgement, involving the glands. He drank from six to eight glasses a day before meals of Spring No. 1, during a stay of six weeks at the springs, at the end of which time all of his distressing symptoms had disappeared; he could eat freely of dishes previously proscribed without post-prandial malaise, pain, or dyspnœa, and returned home completely restored to health.

Many other cases of atonic dyspepsia have been treated in the same way with uniformly similar results.

Case II. *Neurasthenia.*—This patient had likewise been under treatment, having taken quantities of drugs and elixirs, such as strychnine, iron and quinine, phosphide of zinc, belladonna, etc. His condition was one of emaciation, lethargy, cerebral exhaustion, and melancholia, with torpidity of the bowels and liver. Spring No. 1 was prescribed, two glasses three times a day before each meal. After six weeks of this treatment at the Buffalo Lithia Springs he was able to take regular exercise and enjoy his meals, having gained several pounds of flesh. This patient was seen by me some months later; there had been no return of the melancholia, and his cerebral activity was fully up to the average.

I now prescribe this water freely in all cases where loss of nerve-force and want of tone are present without further classification of the malady. That Spring No. 2 is equally beneficial in properly selected cases has been well established in my own practice as well as in that of many others, among them that of the late Dr. Harvey L. Byrd, in whose opinion Spring No. 2 was a general nerve-tonic and restorative, and he strongly recommended it to a very large class of sufferers as a nervous exhilarant, having used it with eminent success in most nervous diseases, epecially those where depression was a prominent symptom, when there was nothing to contra-indicate its exhibition.

In neuralgia, cephalalgia, and cerebral hyperæmia, as well as in cases of general hyperæsthesia of the nervous system, the water of Spring No. 2 is chiefly indicated, and where anæmia exists, that of Spring No. 3 as an adjuvant, on account of its strongly chalybeate property, which it possesses in the most desirable form for administration—namely, the carbonate of iron. It will be found very serviceable in these maladies taken in quantities of a wineglassful, to four ounces (twenty minutes after meals), according to the nature of the case, whether the anæmic condition is cerebral or general. The same rules apply to their administration in neuritis of the sensory nerves.

The benefit to be derived from the use of the Buffalo Lithia waters in paralytic affections—such as multiple degenerative neuritis of the motor nerves, chorea, paralyses of the rectum and bladder, and paralysis of the facial nerve—has been attested by numerous well-authenticated cases, apart from my own. I have found them especially valuable in facial paralysis and hemiplegia; in the two last-named diseases Spring No. 1 exercises the greater therapeutic potency. In hemiplegia the patient, while using the water internally, should also douche the paralyzed parts with it at the temperature at which it is taken from the spring. Its action in multiple degenerative neuritis of the motor nerves is manifested during a course of the water by a diminution of the muscular contraction at times present and a return of reflex and electrical conduction, thereby preventing the paralyzed muscles from becoming atrophied.

When exhibited in cases of paralysis of the bladder, tone is imparted to the organ generally; the muscular coats are strengthened and incontinence of urine is checked. In chorea, the water of Spring No. 1 acts directly upon the inhibitory nerve-fibers, exercising a steadying power and causing a gradual disappearance of that tremulous condition known as paralysis agitans. In a communication to the "Virginia Medical Monthly,"* Dr. M. H. Houston, after observation of the action of Spring No. 2 in numerous cases in his practice and alluding to its virtue as a powerful and permanent nerve-tonic, says of its employment in paralysis of the rectum, that its effects in improving and restoring the organic sensibility of the entire intestinal tract were strikingly illustrated in one of his cases. Under a continuous use of the water the sensibility was restored to a considerable extent tonic contraction of the paralyzed bowel took place, and its contents, which it had before been necessary to remove by mechanical means, "were expelled, with very slight assistance, from the use of simple water."

Locomotor Ataxia.—In a case of tabes dorsalis sent to these springs for treatment by the waters, and occurring in the practice of Dr. Landon B. Edwards, the attending physician, the improvement was so notable that when the patient returned to Dr. Edwards he would have been inclined to doubt the correctness of his diagnosis had it not been for the fact that this had been previously fully established in consultation, several eminent *confrères* concurring in the opinion that the case was one of true sclerosis of the posterior columns.

The therapeutic action of the waters in this instance was unquestionably exercised upon the nerve-centers in just the same manner as in cases of multiple degenerative neuritis, or as it would be in affections of the anterior horns. They would thus seem to be indicated in all forms of spinal paralysis.

Hysteria.—I use the term in its broad sense, including hysterical attacks and sensations, hystero-epilepsy, reflex mental disturbances, cephalalgia, nausea, and vomiting—a neurosis and yet only a symptom, for which, in the majority of cases, the uterus is responsible in the opinion of Dr. Graily Hewitt. This conclusion, however, is not shared by the latest writers on hysterical affections, and among them Professor Charcot, who adopts the view that the ovaries are the real cause of manifestations of this nature. It is, however, my purpose to deal with the subject clinically only, and to accept the condition as presented in practice. Experience has led me to the belief that hysteria is rather a symptom than a disease, and, whether attributable to the uterus or ovaries or in some cases to both, certain it is that this condition rapidly ameliorates under treatment by the Buffalo Lithia water of Spring No. 1 in those cases [and they are many] in which faulty innervation of the uterus and ovaries is the *fons et origo morbi.* To prove that hysteria is only a symptom, we have but to follow the pathological process one step farther, and we observe this same deficient innervation finding expression in the different flexions and versions of the uterus, dragging now one then the other, sometimes both, ovaries out of position, whether the displacement is antero-posterior or lateral. This hysteroneurosis is most frequently met with in derangements of the catamenia, notably in amenorrhœa and dysmenorrhœa.

My friend and colleague, the late Dr. J. Marion Sims, who had used the water of Spring No. 2 in his very extensive gynæcological practice for two years prior to his death, found it highly efficacious in such cases. This has been the experience of many others in the treatment of diseases of women, whether organic or functional, the prescribed quantity acting directly upon the nerve-centers of the pelvic viscera, imparting through them strength and tone to the muscular layers, and to the round and broad ligaments, thus enabling the uterus to resume its proper axis and to derive the necessary support from its appendages, which now retain it *in situ.*

The waters also regulate the menstrual flow in much the same manner that digitalis regulates cardiac action. In dysmenorrhœa the excessive discharge is lessened in quantity and the ovaralgic pain alleviated; in amenorrhœa the appearance of the catamenia is brought about at the regular interval of twenty-eight days, not only in cases where the menses have been suppressed temporarily, but also in those in which they have been entirely absent for a protracted period. We have here the same neurosis, causing in one case dysmenorrhœa, in another amenorrhœa, according to the idiosyncrasy of the individual patient, an illustration of the physical phenomenon that the same cause produces different effects; the same neurosis productive of different pathological process. The nerve-cells are revitalized under the influence of the waters, the cause is removed, and the effect ceases. The majority of my own cases of this class were treated with Spring No. 1, which also possesses, in common with Spring No. 2 but to a greater degree, decided aphrodisiac powers.

Impotence and Sterility.—In numerous cases of loss of sexual power, and sterility, treated with the water of Spring No. 1, as well as in cases of absence of orgasm, in both the male and female, there was a return of erotism, the sexual appetite was restored with normal function, and in several cases of sterility patients bore children at term. In some of these cases, iron, cantharides, aloes, damiana, nux vomica, phosphorus, and electricity had been resorted to without benefit. In this class of cases the waters of Springs Nos. 1 and 3 combined will be found most serviceable, prescribed in the manner above mentioned.

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* "Virginia Medical Monthly," February, 1878.

It will be seen from the foregoing that there are three springs comprising the group known as the Buffalo Lithia Springs, and designated respectively by the Nos. 1, 2, and 3. It is evident that each case must be properly selected and the spring suitable to each individual patient carefully chosen from the symptoms, *or, in the absence of these, from the dyscrasia.* During treatment, tea and coffee should be avoided, as well as all stimulants and acids, the latter exercising a special deleterious influence in nervous subjects, apart from causing molecular and chemical changes by neutralization of the alkaline constituents of the waters. These, for obvious reasons, should only be taken when the stomach is in an alkaline condition—viz., one hour before meals, with the exception of Spring No. 3, as noted. We possess, then, a remedy that may be used not only *ab initio*, but one which will prove grateful to the stomach in patients that have taken drugs *ad nauseam*, spent many painful moments of instrumentation on the operating-table, and languished for months under the wearing routine of ordinary gynæcological practice. It will be readily conceded from the foregoing that the Buffalo Lithia waters merit a prominent place in the therapeutics of diseases of the nervous system, both as a quasi-specific and as a general nervine tonic—properties that distinguish them from all other mineral waters known to science. The relief obtained from the exhibition of drugs and electricity in these maladies is too often ephemeral. That afforded by these waters is more radical and permanent, being based upon molecular change throughout the nervous system, which in its turn alters the diathesis and thus removes those neuroses from which diseases originate.

The analyses of the Buffalo Lithia waters, Springs Nos. 1, 2, and 3, are hereto appended. It will thus be seen that the following paper disclaims all advocacy of a secret remedy and is intended solely as a contribution to the therapeutics of diseases of the nervous system, based upon scientific research and personal experience in the treatment of those affections, by the author.

Analyses.—Analyses of the waters of the Buffalo Springs, in Mecklenburg County, Virginia, made by Professor William P. Tonry, of the Maryland Institute, Baltimore, March 17, 1874. (Results expressed in grains to the imperial gallon.)

SPRING NO. 1.

	GRAINS.
Sulphate of magnesium...	1·530
“ aluminium...	8·180
“ potassium...	0·463
“ calcium.....	19·251
Bicarbonate of calcium...	39·277
“ lithium...	1·484
“ iron......	0·500
Chloride of sodium... ..	1·256
Chloride of silicon.......	1·725
Phosphoric acid.........	traces
Iodine.................	traces
Organic matter....	small amount
Total number of grains in a gallon........	73·693
Sulphureted hydrogen.	5·9 cub. in.
Carbonic-acid gas...	69·1 “

SPRING NO. 2.

	GRAINS.
Sulphate of magnesium...	0·885
“ aluminium...	9·067
“ calcium.....	33·067
Carbonate of potassium..	29·300
Bicarbonate of calcium...	14·963
“ lithium...	2·250
“ barium...	1·750
“ iron......	0·300
Chloride of sodium......	4·921
“ silicon.......	1·873
Phosphoric acid.........	traces
Iodine.................	traces
Organic matter....	small amount
Total number of grains in a gallon........	98·376
Sulphureted hydrogen.	8·3 cub. in.
Carbonic-acid gas...	59·2 “

SPRING NO. 3.

	GRAINS.
Sulphate of magnesium....	0·150
“ aluminium....	3·035
“ calcium......	2·353
Carbonate of potassium...	1·852
Bicarbonate of calcium....	2·524
“ lithium....	traces
“ iron.......	3·774
Chloride of sodium	0·217
“ silicon	0·570
Phosphoric acid..........	traces
Organic matter....	small amount
Total number of grains in a gallon........	14·475
Sulphureted hydrogen.	3·4 cub. in.
Carbonic-acid gas...	11·6 “

TWO UNUSUAL CASES OF SUICIDE.

By G. G. HUBBARD, M. D.,
HORNELLSVILLE, N. Y.

MEDICAL experts have expressed the opinion that it is impossible for one to shoot himself through the heart and also through the head, but a case came under my observation recently, as coroner, that seems to disprove this opinion. In twenty-nine cases of wounds of the cavities of the heart, collected by Sansom and Oliver, only two were fatal within forty-eight hours; the rest in periods varying from four to twenty-eight days. Fournier found a bullet in the heart six years after it was shot, the man dying from another cause. (See Woodman and Tidy's "Forensic Medicine," p. 1025.) The following case may be of interest, as the literature of the subject is not extensive:

C. C., aged twenty-nine, a farmer, prosperous, with pleasant environment, was found dead by his wife in his barn, lying on his back on the floor. His own revolver lay within reach of his right hand. It was a twenty-two caliber, five-barreled revolver; three chambers of it contained empty shells, the others were loaded. There were three bullet-wounds on his body; two of them were in the cardiac region, and the clothing surrounding them was scorched and powder-burnt, indicating a very short range. The autopsy showed that one of the bullets had entered the cavity of the right ventricle of the heart; the other one had not touched the heart. The third bullet had entered the right temple and penetrated the brain at least four inches. This one had evidently been shot last, and the wound was also powder-burnt. The wife of Mr. C. testified at the inquest that she was awakened at 5 A. M. by her husband vomiting. He arose and went into the pantry (where he kept his pistol), to get some peppermint, he said. He then went out of the house and she fell asleep again, and awoke in an hour, and went out to hunt him up, as he had not returned, and found him dead in the barn. All the evidence pointed to suicide, and the jury brought in a verdict to that effect.

Can a man shoot himself in the uncovered face with a pistol held in his hand without having the bullet-wound powder-burnt? A case bearing upon this query occurred recently in this vicinity:

T. M., a man with domestic troubles that made life a burden, was seen late one night, in the outskirts of the town, flourishing a revolver. He sat down under some bushes. A few minutes afterward a pistol-shot was heard, and the man was found with a bullet hole in the center of the forehead. The bullet penetrated the brain in a direction slightly downward and to the left, and it was found lying against the occipital bone. The wound was not powder-marked in the least, nor could any powder be discovered within the wound after the most careful search. The four charges remaining in the revolver, when found, were fired at targets covered with white chamois-skin, at distances of three, eight, eighteen, and thirty inches, respectively, and in every case the skin surrounding the bullet-hole was powder-burnt. All the other evidence indicated suicide. The jury at the inquest disagreed. Those who dissented from a verdict of suicide did so entirely on account of the absence of powder-marks around the wound, holding to the opinion that that was conclusive that the man had not shot himself. Were they right or wrong?

Correspondence.

LETTER FROM LONDON.

The Annual Meeting of the British Medical Association.—Professor Gairdner on Stability in Medicine.—Medical Politics. —Bone-setters.

London, *August 6, 1887.*

The fifty-fifth annual meeting of the British Medical Association is now a matter of history. The meeting commenced last Monday (five days ago) in Dublin, this being the second time that the Irish capital has played the host to the association, and the third time within the last ten years that the meeting has been held on Irish soil. Irish hospitality is proverbial, and our brethren in "dear dirty Dublin," as it has been called, have fully sustained the national reputation in this respect. The general plan of the meeting is that each day there shall be a general meeting, at which the ordinary business of the association is transacted, such as the election of officers, etc., and one general address given. This year, in addition to the presidential address, by Dr. Banks, there was an address in medicine delivered by Professor Gairdner, of Glasgow; an address in surgery, by Dr. Edward Hamilton; and one in public medicine, by the Rev. Samuel Haughton, M.D. Dr. Banks, as in duty bound, gave a general review of Irish medicine from the foundation of the University of Trinity College, Dublin, by Queen Elizabeth, down to the present day. Dr. Hamilton dealt chiefly with the treatment of abscess, while the Rev. Dr. Haughton treated his audience to a brief but brilliant disquisition on the health of Dublin, and contrived to make a speech literally bristling with statistics highly interesting. Professor Gairdner, who, by the way, will next year be the president of the meeting, as Glasgow has been selected as the place of meeting, took as his text "Has the Art of Medicine advanced during the Present Century?" and delivered, as was to be expected, a most sterling address. After reference to the times of Hippocrates and Galen, he spoke at more length on Brunonianism and the medical art as it existed in the time of Cullen. One chief point in which we had made progress was, he considered, in the greater stability of our views and doctrines; it would be impossible now for any new theory to come and completely upset the received doctrines. Speaking of the revolution in the treatment of fevers and inflammations, which in some minds occupies in relation to medicine as advanced a position as antisepticism does to surgery, he said that he had no doubt at all as to the advantages in some cases, in a limited sense, of the so-called antipyretic treatment, but that he had yet to be convinced of the advantage of its application as a matter of routine in typhoid or any other kind of fever. It was not clear to him that this treatment had resulted in a permanent lessened mortality when compared with results obtained without such active procedures. He was by no means insensible, he said, to the value of the work done by Liebermeister, Jürgenssen, and others, and if the opportunity arose he would gladly witness or concur in any therapeutic experiments to decide the point. The treatment of phthisis by cod-liver oil and that of epilepsy by bromide of potassium were two great advances that their century had witnessed, and the same was to be said of digitalis and the other heart tonics, of nitrite of amyl, and nitro-glycerin, and of the salicyl compounds in rheumatism; but these latter remedies had not been as yet sufficiently long on their trial to justify their being adduced as evidence of the increasing stability of the medical art.

For the present, London is very quiet and empty, and medical politics is quite in abeyance, but in October all will be very different, and the Privy Council will receive and have to consider three separate petitions on matters medical. There will be one from the University of London embodying the changes which the senate proposed to make to satisfy the present demand; there will be one from University and Kings Colleges jointly asking that they be made the foundation of a new university; and there will be the petition from the Colleges of Physicians and Surgeons asking for power to give a degree. With so many different proposals before them, it is unlikely that the Privy Council will do more than advise a special commission of inquiry, and that will mean the postponement of the final settlement for two or three years. That we must have a degree obtainable in London as easily as it is in Edinburgh or Dublin is certainly the minimum that will satisfy present demands, and ultimately every qualified practitioner must have the right to call himself doctor; it is so in almost every other country, and it ought to be so with us, and I have no doubt that it will come eventually.

The death of Mr. Hutton, the bone-setter, a few days ago, from an inadvertent dose of laudanum, has given the daily papers the opportunity of having a fling at the medical profession, of which they have not been slow to avail themselves. Mr. Hutton's success and skill may have been derived from his uncle (who founded the business and made a great name for himself), but they were certainly not due to any knowledge of anatomy on his part, for on one occasion in a law court he was unable to distinguish between the right and left bones of the leg. The public only heard of the successes of such a man, and the medical profession only came across his failures; so that it is no wonder we are unable to agree on the subject of his merits. The bone-setter's trade is dying out in London, however, as our surgeons are learning to be much more free in dealing with adhesions, fixed joints, etc.

A Correction.—In the letter from Dr. Mary Willits, "A Visit to Dr. Hiram Corson," which was published in the Journal for August 6th, the dose of infusion of cimicifuga, which was given as "a teaspoonful three times a day," should have been *from a tablespoonful to a wineglassful three times a day.* The tincture or fluid extract may be used in teaspoonful doses.

Dr. Morell Mackenzie is stated in the "Internationale klinische Rundschau," for July 31st, to have earned, up to that date, 54,000 marks by his services in the case of the Crown Prince of Germany.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, AUGUST 20, 1887.

NIGHT WORK BY SCHOOL CHILDREN.

Sir Joseph Fayrer, who is a foreign correspondent of the Paris *Académie de médecine*, lately made a remarkable communication to that body, an excellent translation of which, by Dr. Catrin, of the medical corps of the French army, is published in the "Gazette hebdomadaire de médecine et de chirurgie." His theme was one that has been much discussed of late in England and France—that of over-work in schools (the *surmenage scolaire* of the French). After a general survey of the subject of the injuriousness of forcing the brain at the expense of the organism at large in the case of the young, the writer devoted particular attention to a feature that is certainly one of the most harmful, that of assigning to school children tasks which demand that they should work upon them at night.

Dr. James Crichton Browne is quoted as saying that, although most of the class work comes in the morning, the simplest inquiry is enough to convince one that the heaviest part of the pupil's labor is not performed in the class-room, for the invariable answer to the question as to what constitutes the severest work is that it is that of preparing for the class-room, and this preparatory work is done at night. The greatest effort demanded of the child's brain is thus reserved for a time when the organ is at its minimum of power, after a whole day of fatigue. The interval allowed for recreation, between the close of school for the day and the arrival of the hour for work, is insufficient, however long it may be, to do away with the noxiousness of the evening toil, which too often produces sleeplessness and leads to nervous derangement and debility, affections that have now become common in children, especially in large cities. Children should be made to do their most arduous mental work at a time when both body and mind are at the height of their capability—namely, between nine o'clock in the morning and midday.

From the physician's point of view, all lessons should be prepared at the school, and with the assistance of the teacher, whose proper function it is to point out and explain difficulties. Too many teachers, however, think they have done their whole duty when they have corrected the pupil's errors and allotted him his tasks for the succeeding day, and leave the essential part of their work to be done by the governess or the parents. Sixty-five in a hundred of the young girls whom Dr. Browne has questioned as to the severest part of their work have said that it was the part they did at home, and fifty-seven in a hundred said that it was done in the evening.

A striking instance of the injuriousness of this state of things is cited from the observation of an eminent physician whose name is not mentioned. He was called to a girl, fourteen years old, whom he found in bed, pale, with her pupils dilated, her muscles tremulous, and her cerebral action deranged, and with a pulse of 120, her whole aspect being such as to lead him to fear that some grave affection of the brain was impending. The night before, she had worked until an hour past midnight, and this she had done regularly twice a week; the other nights, she had worked until eleven o'clock. Her tasks for one day were as follows: The story of Touchstone, with citations; twelve questions in geography, giving the courses of rivers, etc.; six pages of French grammar to copy; and copying a printed page of "Picciola" and learning all the verbs.

Sir Joseph Fayrer concludes that the most dangerous periods, so far as regards this matter, are that of the second dentition and that which precedes puberty. He alludes to several instances in which mental over-work has terminated fatally, in one case by encephalitis consequent on the labor of preparing for the Sandhurst examinations. Two or three hours' work in the morning, with the teacher, is wholesome and even necessary for a child, but evening work is absolutely injurious, so that it should be wholly prohibited up to the age of ten or twelve years; after that, it may be allowed, but to a much smaller extent than at present prevails. It is not enough, Sir Joseph Fayrer thinks, to impress these views on teachers and parents, but they should be embodied in legal enactments.

MINOR PARAGRAPHS.

THE PASTEUR TREATMENT OF RABIES.

M. Lutaud, the editor of the "Journal de médecine," is, or lately was, lecturing to the Londoners, in English, after the manner of his published articles in opposition to the Pasteur system. M. Lutaud is regarded as a man of ability, but his opposition is considered of little weight in Paris, where the question is now looked upon as lying chiefly between M. Pasteur and M. Peter, the general feeling being that all that can be done is to wait. In the mean time, two more deaths after Pasteur's treatment are mentioned in our private advices as highly suggestive of what is called *rage paralytique.* On the other hand, doubt having been cast upon the occurrence of rabies among so many thousand "French persons" of late, our informant calls attention to the fact that many hundreds of the patients treated at Pasteur's laboratory were Algerians, Mauritians, Arabs, etc.

AN ALLEGATION OF PRIORITY.

Not long ago, we mentioned a proposition put forth by the humorous *feuilletoniste* of the "Union médicale," to the effect that no apparatus was necessary for carrying out the Bergeon treatment, but that it would answer to make the patient eat beans. He now states that Professor Ewald afterward presented the idea, in all seriousness, at a meeting of the *Gesellschaft für innere Medicin*, of Berlin. But "Simplissime's" *feuilleton* was dated May 28th, and it was not until the 4th of July that Ewald's suggestion was made, so that the Frenchman was thirty-seven days ahead. He maintains that Ewald must have known of his article, for, he says, he is very much read in Germany, as was shown by the avalanche of abuse heaped on him by German journalists two or three years ago, because, as they thought, he had spoken somewhat disrespectfully of the

German Chancellor. It is only the rich that are robbed, he adds, and he has no intention of allowing his ideas to be taken possession of. Therefore he is going to write a letter to the president of the Berlin society, setting forth his title to priority in this matter, and avowing himself a candidate for corresponding membership, in which candidacy he counts on Professor Ewald's support. *Mutatis mutandis*, much of this whimsical line of argument would fit many a case in which vigorous contests as to priority are carried on.

LEPROSY CONSIDERED AS A FORM OF SCROFULA.

Professor Primo Ferrari has recently made a study of a placenta from a leprous woman, and his account of his investigation is published in the "Gazzetta degli ospitali." No micro-organisms were found, nor any leprous cells. There was a remarkably scanty infiltration with leucocytes, but there was an abundance of those elements in their normal state. The mucous connective tissue of the villosities was condensed, and some of the arterial vessels of the villi were obliterated by endarteritis, and others by thrombosis. Professor Ferrari thinks that leprosy is a constitutional disease, but one that is neither infectious nor contagious; that leprosy, lupus, and tuberculosis are all manifestations of scrofula; and that Hansen's bacillus of leprosy, that of tuberculosis, that of lupus, and that of scrofula are the same organism, which manifests itself whenever suitable conditions are present, such as scrofulous processes.

THE INSENSIBLE PERSPIRATION.

Dr. E. Peiper, of Greifswald, has lately published in the "Zeitschrift für klinische Medicin" a digest of certain investigations of the insensible cutaneous transpiration by Weyrich, Röhrig, Reinhard, and Janssen. Many of the author's conclusions, as summarized in the "Deutsche Medizinal-Zeitung," are in conformity with what has long been taught, and therefore need not be mentioned. Some of the others, however, are noteworthy. The insensible perspiration is said to be greater on the right side of the body than on the left. Early in the morning the transpiration begins to show a gradual increase, which becomes more marked in the afternoon and reaches its maximum in the early hours of the night; after midnight the function decreases. Very great fluctuations in the humidity of the atmosphere seem to exert an influence on the exhalation of aqueous vapor by the skin, but its absolute humidity has no effect; and the same is true of barometric variations. An increase of the renal secretion, as well as that of the true sweat, diminishes the insensible perspiration. The exhalation is relatively much greater in children than in adults, although absolutely of smaller amount. The ingestion of food, the frequency of the pulse and respiration, and the bodily temperature, within the normal range, also weight, size, and sex, seem to have no effect upon the function.

AN ALLEGED DEATH FROM CIGARETTE-SMOKING.

The "New York Times" lately took a step decidedly in advance of the ordinary run of newspaper medicine. Taking as its text a case in which a coroner is reported to have come to the conclusion, after an inquest, that a certain person had died in consequence of cigarette-smoking, the "Times" practically admits, on what seem to us logical grounds, that any increased danger entailed by cigarette-smoking, over and above what pertains to any other form of tobacco-smoking, is caused by the habit that devotees of the cigarette have of inhaling the smoke. But inhalation is practiced by many smokers of cigars, and not by all who use cigarettes; so that the expression "the deadly cigarette" may be more fanciful than just. This question, of course, is quite unconnected with that of the temptation into which the cheap and convenient cigarette leads the very young, but the two are often confounded by popular writers.

TYPHO-MALARIAL AND "MALARIO-TYPHOID" FEVERS.

Mr. J. G. Laffan, of the British Colonial Medical Service ("Lancet"), writes that he thinks all cases of the "Rock," "Levant," "Mediterranean," "Cyprus," "coast," "colonial," or "Peshawur" fever resemble one another, but that he would divide them into two classes, calling those in which malarial phenomena predominate "malario-typhoid," and those in which such phenomena are subsidiary "typho-malarial."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 16, 1887:

DISEASES.	Week ending Aug. 9.		Week ending Aug. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	42	3	55	12
Scarlet fever	28	4	29	6
Cerebro-spinal meningitis	3	3	5	5
Measles	24	1	18	3
Diphtheria	80	23	82	25
Small-pox	7	1	0	0

The University of Berlin—It is reported that Professor Virchow's liberal opinions have caused his rejection as a candidate for the rectorship.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 7 to August 13, 1887:*

McKee, J. C., Major and Surgeon. Ordered for duty at Watertown Arsenal, Mass. S. O. 181, A. G. O., August 6, 1887.

Brown, H. E., Major and Surgeon. Sick leave extended to August 6, 1887, on account of sickness. S. O. 184, A. G. O., August 10, 1887.

Cleary, P. J. A., Major and Surgeon. Ordered to Fort McDowell, Arizona Territory, instead of Fort Assiniboine, Montana Territory. S. O. 180, A. G. O., August 5, 1887.

Dickson, John M, Captain and Assistant Surgeon. Died August 8, 1887. (Station, Fort Mason, California.)

Merrill, J. C., Captain and Assistant Surgeon. Ordered from Fort Klamath, Oregon, to Watervliet Arsenal, New York. S. O. 181, A. G. O., August 6, 1887.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Promoted to be Assistant Surgeon with the rank of Captain by operation of law. August 10, 1887.

Hopkins, William E., First Lieutenant and Assistant Surgeon. Ordered from Angel Island, California, to Fort Mason, California. S. O. 184, A. G. O., August 10, 1887.

Pilcher, J. E., First Lieutenant and Assistant Surgeon. Ordered from Fort Monroe, Virginia, to Fort Wood, New York Harbor. S. O. 180, A. G. O., August 5, 1887.

Anderson, C. L. G., First Lieutenant and Assistant Surgeon (Station, Whipple Barracks, Arizona Territory). Ordered to Fort McDowell, Arizona Territory. S. O. 81, Department of Arizona, August 3, 1887.

Suter, William N., First Lieutenant and Assistant Surgeon. Ordered to return to Washington Barracks, D. C., on the breaking up of the Camp at Creedmoor, N. Y. S. O. 166, Division of the Atlantic, August 10, 1887.

Letters to the Editor.

A REGISTERING THERMOMETER.

August 13, 1887.

To the Editor of the New York Medical Journal:

Sir: I have had the opportunity for the past two weeks of watching the action of an advance in thermometry which I believe will be of great service in the regulation of the temperature of hospital wards and sick-rooms. The instrument to which I refer is a registering thermometer that has lately been invented by Dr. Daniel Draper—a son, by the way, and the only surviving one, of the late John W. Draper. It consists essentially of a metallic bar, made of copper and steel, which, by the alternate contraction and expansion of heat, indicates the temperature, and registers it by tracing it on a paper disc with a pointer supplied with aniline ink from a trough at its extremity. It is at once seen that by the use of this thermometer we have the means of showing the exact number of degrees of variation of temperature in any given time. The pointer is moved by a mechanism similar to that of an ordinary clock. I have been much interested in the tracings upon the disc, of the temperature at Dr. Draper's observatory, in Central Park, New York, as compared with the record here, at Blue Mountain Lake, Adirondacks, for the week ending August 6th. This week was an exceptionally hot one in both places. The highest temperature in Central Park was 90° F. on Sunday, July 31st, at about 2.30 P. M.; at the same time here it was 80°. The highest temperature reached here was on Wednesday, August 3d, at 4 P. M., 84°, about half a degree higher than it was in New York at the same time.

But I did not begin this note to do anything more than call the attention of the profession to the merits of this new instrument of precision. With it it will now be possible to positively show what the temperature has been during twenty-four or any number of hours, and, hence, to correct or remove the sources of variation. The instrument will be for sale at the opticians', and will cost, I am informed, about thirty dollars.

D. B. St. John Roosa.

A CAUTION IN REGARD TO ACETANILIDE.

123 East Fifty-ninth Street, *August 8, 1887.*

To the Editor of the New York Medical Journal:

Sir: As every adverse observation of a new drug that has rapidly grown into favor must be of practical interest to the profession, I offer no apology for asking space in your columns for this communication. Quite recently I was called in consultation to see a lad, thirteen years old, of a delicate constitution, the subject of a relapse of a mild attack of typhoid fever that had run a short and favorable course. He had taken to bed about eighteen days before I saw him. In the course of fourteen days the temperature, which had never risen above 103° F., fell to normal. He was now allowed to be up, and was not much restricted in his diet. Two days afterward, a recrudescence of the fever occurred. The temperature now went up to 103°, and on one occasion to 104°. The physician in charge prescribed acetanilide in five-grain doses every four hours. After it had been given for twenty-four hours, the temperature remaining about the same, the dose was increased to ten grains, to be given with the same frequency. When six of the latter doses had been given as prescribed, the parents became alarmed at the decided increase of a blueness of the lips, face, and fingers that they had observed the evening before, and sent for me to meet the attending physician. I found the patient with a temperature of 103°, breathing regularly about thirty-two times to the minute, with a weak, soft, and compressible pulse of 116. There was very marked cyanosis of the lips, face, and fingers up to the second joints. The expression of the countenance was pinched, and the patient was restless and complained of feeling very weak. My impression from a rapid and superficial examination was that something of a very serious nature had occurred, but a subsequent thorough examination of the heart and lungs revealed no pathological changes in those organs. There was no opportunity to analyze the urine, the bowels were regular, and there had been no hæmorrhages at any time. There were no evidences of perforation or peritonitis. I gave it as my opinion that the cyanosis and impending collapse were due to the large quantity of acetanilide taken—an opinion which the attending physician, a man of intelligence and education, did not share. However, the administration of the drug was stopped, all antipyretics were to be withheld, and the patient was to be kept on the use of a strict milk diet, to which was to be added a quarter of an ounce of whisky every two hours. Twenty-four hours afterward, when I saw the patient again, there was a marked improvement in every respect; the temperature was only 102° in the evening, the pulse was of a better volume, the cyanosis had almost entirely disappeared, and the patient expressed himself as feeling better and stronger. The improvement progressed gradually under the foregoing course of treatment, so that on the evening of the sixth day after I had first seen the patient the evening temperature was normal, the pulse (90) was of good volume, and the bowels were slightly constipated. The apyrexia has continued ever since, and convalescence is now progressing favorably.

It seems to me that there can be no reasonable doubt that the unfavorable symptoms were due to the use of the acetanilide, of which the patient had taken sixty grains in the course of forty-eight hours. It is my firm conviction that, had the parents gone on giving the drug in the same doses during the night as had been prescribed, collapse would have taken place out of which it would have been extremely difficult to extricate the patient.

H. N. Vineberg, M. D.

Book Notices.

House-Plants as Sanitary Agents; or, the Relation of Growing Vegetation to Health and Disease. Comprising also a Consideration of the Subject of Practical Floriculture and of the Sanitary Influences of Forests and Plantations. By J. M. Anders, M. D., Ph. D., lately Lecturer on Botany in the Wagner Free Institute of Science, etc. Philadelphia: J. B. Lippincott Company, 1887. Pp. 334. [Price, $1.50.]

The title on the back of this handsome volume—"House-Plants as Sanitary Agents"—indicates only a portion of its scope; as its full title shows, it goes further, and deals with the sanitary aspects of forests and plantations. Much of it is devoted to the task of overthrowing the popular prejudice against plants in sleeping-rooms on the score that they are detrimental to health. The author's argument on this question seems to us very fair and such as ought to be convincing to a logical mind. Except for a few plants, the emanations from which may be injurious, we are inclined to think that no harm is likely to happen from the presence of plants in dwellings other than that which depends on exclusion of fresh air for fear of the action of cold on the plants. Dr. Anders has certainly done a good work in helping to dispel the notion that house-plants are directly detrimental to health, and, in addition, he has given a great deal of useful information about the management of plants. The work ought to be widely read.

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

J. B. BAILLIÈRE & FILS, Paris.—Oré, "Hygiène des maternités."

A. DELAHAYE & E. LECROSNIER, Paris.—G. Sée and Labadie-Lagrave, "Médecine clinique," vol. v. (4*fr.*) —— Motais, "Anatomie de l'appareil moteur de l'œil de l'homme et des vertébrés."

O. DOIN, Paris.—J. Fontan and C. Ségard, "Éléments de médecine suggestive." (4*fr.*) —— François-Franck, "Leçons sur les fonctions motrices du cerveau." (12*fr.*) —— L. Poisson, "Voyage chirurgical en Allemagne." (3*fr.*)

GAUTIER & VILLARS, Paris.—M. Vulpian, "Statistique générale des personnes qui ont été traitées à l'Institut Pasteur," etc.

BUREAUX DU "PROGRÈS MÉDICAL," Paris.—P. Budin, "Du cloisonnement transversal incomplet du col de l'utérus." (0*fr.* 50.) —— H. Picard, "L'infiltration urineuse." (0*fr.* 50.) —— Reliquet, "Persistance du canal de Müller." (0*fr.* 75.)

G. STEINHEIL, Paris.—De St.-Germain and E. Valude, "Traité pratique des maladies des yeux chez les enfants." (8*fr.* 50.)

A. STORK, Lyons.—J. P. Henry-Coutagne, "Manuel des expertises médicales en matière criminelle." (3*fr.*)

W. BRAUMÜLLER, Vienna.—"Vorträge über Cholera asiatica im Wiener medicinischen Doktoren-Kollegium." (1*M.* 60.)

H. DÜRSELEN, Leipsic.—Cracau, "Gift u. Gegengift." (5*M.*)

F. ENKE, Stuttgart.—H. Fehling, "Das Dasein vor der Geburt." (1*M.*)

G. FISCHER, Jena.—Ziegler and Nauwerck, "Beiträge zur pathologischen Anatomie u. Physiologie." Vol. ii, part 1. (9*M.*)

HEUSER, Neuwied.—Eichholz, "Kaiserschnitt." (1*M.*) —— B. Flothmann, "Ein Beitrag zu den Operationen d. Cephalocelen." (2*M.*)

A. HIRSCHWALD, Berlin.—M. Tuchmann, "Die Diagnose der Blasen- und Nierenkrankheiten mittels der Harnleiterpincette." (3*M.*)

KAROW, Dorpat.—W. Fromhold-Treu, "Beeinflussung d. peripheren Gefässe durch Hautreizmittel u. den elektrischen Strom." (1*M.* 20.)

H. LAUPP, Tübingen.—G. Walcher, "Senkung u. Vorfall in Scheide u. Gebärmutter, sowie die veralteten Dammrisse." (4*M.* 60.)

H. POHLE, Jena.—L. Brandt, "Zur Aetiologie des Lupus vulgaris." (1*M.*)

F. WREDEN, Brunswick.—A. Seeligmüller, "Lehrbuch d. Krankheiten des Rückenmarks u. Gehirns, sowie d. allgemeinen Neurosen." 2d part. —— H. FRÖHLICH, "Militärmedicin." (16*M.*)

E. DETKEN, Naples.—R. Massalongo, "L'atrofia muscolare nelle paralisi isteriche."

FRATELLI RECHIEDEI, Milan.—F. Orsi, "Lezioni di patologia e terapia speciale medica." 2d ed. (12*l.*)

F. VALLARDI, Rome.—D. Barduzzi, "Dermatologia propedeutica." (4*l.*) ——A. Biondi, "Trattato di semiotica medica." (15*l.*) —— G. Strambio, "Trattato elementare di anatomia descrittiva." 2d ed., 3 vols. (6*l.*)

ALVAREZ & CA., Havana.—V. de La Guardia, "Algunas Consideraciones relativas a la Fiebre Tifoidea."

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of Obstetrics and Gynæcology. Volume Six. A Handbook of General and Operative Gynæcology. By Dr. A. Hegar, Professor of Obstetrics and Gynæcology, etc., at the University of Freiburg, and Dr. R. Kaltenbach, Professor of Obstetrics and Gynæcology, etc., at the University of Giessen. In Two Volumes. Volume I: Gynæcological Examinations, Minor Therapeutic Manipulations, and Elementary Operations, Operations on the Ovaries. With One Hundred and Twenty-nine Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. v–352.

Cyclopædia of Obstetrics and Gynæcology. Volume Ten. Diseases of the Female Urethra and Bladder. By F. Winckel, M. D., Professor of Obstetrics and Gynæcology at the Royal University, Munich. And Diseases of the Vagina. By A. Breisky, M. D., Professor of Obstetrics and Gynæcology at the Royal University, Vienna. With Ninety-nine Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. iv–393.

Practical Thoughts for Physicians. Address delivered before the Indiana State Medical Society, May 10, 1887. By G. W. H. Kemper, M. D., Muncie, Indiana.

The Technique of Tracheotomy and Intubation of the Larynx. By Charles Godwin Jennings, M. D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. [Reprinted from the "Transactions of the Michigan State Medical Society."]

Contributions to the Comparative Craniology of the North American Indians: the Skull in the Apaches. By R. W. Shufeldt, M. D., C. M. Z. S., etc. [Reprinted from the "Journal of Anatomy and Physiology."]

Reports on the Progress of Medicine.

SURGERY.

BY M. L. FOSTER, M. D.

Ichthyol in the Treatment of Erysipelas.—Nussbaum ("Ctrlbl. f. Chir.") recommends smearing the entire erysipelatous surface with an ointment composed of equal parts of ichthyol and vaseline, to be covered with a dressing of salicylic acid. He says that the action of the diluted ichthyol so interferes with the nourishment of the erysipelas cocci that their multiplication and activity cease. He mentions good results in five cases.

Massage for Fungous Joint Disease.—Nichaus (*ibid.*) says this treatment is applicable only to those joints in which the fungous masses are directly accessible to massage. This is not the case in the elbow, ankle, and hip joints, while the wrist is the most favorable of any. Abscesses and fistulæ do not contra-indicate its employment. The rubbing and squeezing, which should in these cases be combined with efficient antisepsis, hasten the opening and evacuation of the abscesses and set up reparative action in the sinuses. In four cases he has obtained good results from this treatment continued from three to twenty months.

Congenital Dislocation of the Hip.—This subject, which seems to have attracted less attention than it deserves since it was accurately described by Dupuytren, is treated of briefly by Adams in the "British Medical Journal." He considers these points in the pathological and clinical history of such cases to be established: 1. In all specimens the head of the femur, though displaced upward, has been found to be still within the capsular ligament, so that no true dislocation exists. 2. In every dissection the osseous rim and the cotyloid ligament have been found wanting, so that the acetabulum is represented only by a flattened triangular depression. This defective condition can only be a congenital malformation. 3. The head of the femur is diminished in size, flattened and irregular in outline, and covered with a thin layer of articular cartilage. The round ligament is sometimes elongated, but is often absent. The neck of the femur is nearly horizontal and curved or twisted backward on account of the altered position of the head in adults. The great trochanter is diminished in size and altered in form. 4. The capsular ligament becomes elongated and greatly increased in thickness and density, sometimes almost equal to cartilage, compensating to a certain extent for the absence of the acetabulum. 5. In consequence of the absence of the acetabulum, the head of the femur gradually ascends to the dorsum ilii after the child begins to walk. It is doubtful whether any displacement exists at birth or until the walking period, though the requisite conditions undoubtedly are present. Shortly after this time the lameness is noticed, and subsequently inequality in the length of the limbs becomes apparent, but before this no inequality can be detected. There is no evidence that the displacement is ever due to muscular action. 6. The gluteal muscles, from disuse, pass into a state of fatty degeneration. 7. If treatment is neglected in cases of displacement at both hip joints, the pelvis gradually becomes horizontal, with the lumbar vertebræ projecting anteriorly and the sacrum depressed between the iliac bones and quite horizontal. The pelvic bones are also altered in shape. When the displacement is at only one hip, obliquity of the pelvis, altered shape of the pelvic bones, and severe lateral curvature of the spine result. 8. The theory that this is a traumatic dislocation produced by the accoucheur in difficult labor is negatived by the pathological conditions and by the fact that in a very large proportion of the cases in which the character of the labor was known it was easy and natural. The treatment consists in recumbency and light, continuous traction. Mr. Adams uses an extension-couch consisting of a movable plane on which the child can be lifted from the bed, carried about the house, or taken into the open air on a spinal carriage, the extension being made by a check-pulley.

Cerebral Surgery.—In the same journal, Mr. Victor Horsley reports ten consecutive operations on the brain and cranial cavity. These operations were undertaken for irritative and destructive lesions causing epilepsy, epileptoid seizures, paralysis, and headache. The lesions found were cicatrices, cysts, tubercular masses, and tumors. One case of intractable localized headache was cured by the removal of a piece of bone at the seat of pain, the inner table of which was being eroded by a Pacchionian body. The only fatal case was one in which the operation was undertaken as a last resort in a tubercular patient. All the other patients were improved or cured. Mr. Horsley emphasizes the necessity of an intimate acquaintance with the physiology and pathology of the central nervous system in order to diagnosticate these diseases, and to insure the safety of the operation. It is obvious that, for the full advantage of the operation, the disease must be attacked in an early stage; at about the period at which a patient dies from such cause surgical interference is as powerless as medicine. Regarding anæsthesia, he considers that it should not be so profound as in ordinary cases, and is of the opinion that the system is most sensitive to the action of an anæsthetic after the dura mater has been opened. He no longer employs the crucial incision through the scalp, but prefers to turn back a large flap outlined so as to preserve either the superficial temporal or occipital arteries uninjured. The periosteum he also lifts up in continuity with the rest of the flap. Where it has been possible to preserve the dura mater, fragments of bone have been replaced; their vitality has been preserved, but not much ossification has been noticed. The cavity becomes covered with a tough fibrous membrane. Where a large area of bone was removed, the patient has worn a perforated celluloid cap. He urges that plenty of the surrounding brain-tissue be removed, especially in cases of new growths in the brain, and that the dura mater, wherever adherent, be removed. Regarding drainage, he employed the usual drainage-tube for twenty-four hours in the first cases, but has latterly given it up. He says: "I now sew the wound all round closely, except for an inch at the most dependent part, where any tension of wound discharge can relieve itself by escape between the edges. I am more than ever convinced that the object to be attained is immediate union of the flap, and that the arachnoidal, like the peritoneal, cavity may be trusted to absorb excess of fluid." He still adheres to the original form of Listerism in its strictest details, operating under the spray, which gives him no inconvenience.

Psoas Abscess.—Owen (*ibid.*) advances these views regarding the treatment of psoas abscesses: It is unpractical to look forward to the spontaneous absorption of the pus; sooner or later it must be let out by nature or art. Art has the advantage, because by its aid the cavity can be emptied, cleansed, and drained at once. The earlier this is done the better, for delay may entail the extravasation of pus and the formation of a large and intractable cavity. The abscess should be opened in front and also in the loin, so that irrigation and drainage may be thorough. For a small abscess a single opening in the back may suffice. He recommends warm iodine water for irrigation, as he thinks the 1-to-1,000 solution of corrosive sublimate dangerous, especially in large abscesses in children. Bilateral abscesses should be opened at the same time, as otherwise the cavity can not be kept aseptic. If the temperature remains high after opening a unilateral abscess, the formation of another abscess should be suspected, and this should be opened as soon as it is detected.

Iodol.—Seifert ("Ctrlbl. f. Chir.") is much pleased with the use of iodol in tuberculosis of the larynx. At first he used a mixture of equal parts of iodol and starch, but latterly he has used iodol pure, and has found that no irritation resulted. He praises it highly as being non-irritant, inodorous, and disinfectant, as well as having a distinct influence in lessening secretion. The insufflations were well borne and were followed by no loss of appetite, such as commonly results after the similar use of iodoform; the ulcers quickly became clean and showed a tendency to cicatrize. He has used this remedy also in atrophic rhinitis, after applications of the galvano-cautery in the nose or naso-pharynx, and as a dressing to syphilitic ulcers, suppurating buboes, and acne pustules after they have been opened. In order to study the excretion of iodol from the body, Seifert took seven grains without injury. Iodine appeared in the urine and saliva at the expiration of twelve hours. In eighteen hours the most decided reaction and the taste of iodine in the mouth were noticed. The excretion of iodine lasted three full days.

Spina Bifida; a New Method of Cure after Rupture of the Sac.—Davidson ("Glasgow Med. Jour.") reports a case of spina bifida in which, despite the greatest care, the sac ruptured on the third day after birth. An unsuccessful attempt was made to prevent the outflow of the fluid by means of a pad and bandage, but at the end of a week it was evident that stronger means must be used to save the child's life. A piece of ordinary sponge was steeped a few hours in dilute hydrochloric acid. From this a thin shaving, of about the thickness of half a crown, was taken, and its edges were trimmed so as exactly to fit the wound. After this had been steeped in a two-and-a-half-per-cent. solution of carbolic acid, it was inserted between the lips of the wound well into the cavity, the edges of the sponge and the surface of the wound being in the same plane. Over the part was placed a piece of protective silk, secured with adhesive plaster. Three days later granulations were seen extending into the slice of sponge from each side, and only a trace of fluid could be found escaping. The dressing was then reapplied, and left in place for a week, at the end of which time the granulations had completely covered in the sponge, and no trace of the escape of fluid could be detected. A few days later the wound was entirely healed, and covered with healthy-looking epidermis. Eight months later the child was enjoying good health.

Gangrene of the Limbs.—Lang ("Edinburgh Med. Jour.") recommends, in order to ascertain whether gangrene is likely to follow a severe injury of a limb, "gently raising the limb, and keeping it raised for two or three minutes, so as to empty it of blood to some extent. Then a tourniquet or a piece of elastic webbing is to be applied on the proximal side of the injury, and kept applied about a minute. Then, on lowering the limb and removing the tourniquet, if sufficient circulation remains, the part beyond the seat of injury will blush very red, and will show the condition of the blood-vessels in an unmistakable manner."

Amputation of the Penis under Cocaine.—This operation, for epithelioma, is reported in the "Lancet." Twenty minims of a five-per-cent. solution of the hydrochloride of cocaine were injected around the site of the incision and into the urethra. Fifteen minutes later the operation was performed without causing pain. There was scarcely any hæmorrhage, except from the large blood-vessels, probably on account of the constricting effect of the drug on the capillaries.

A Modification of Pirogoff's Amputation.—It would seem to the student of surgery that the numerous modifications of this operation which have been proposed from time to time would be able to meet all the various conditions which may be present in cases for which the operation is proper, but Tauber ("Arch. f. klin. Chir."; "Ctrlbl. f. Chir.") presents another modification, which is applicable to cases in which the integument of the outer side of the heel is for any reason rendered useless or unsuitable for conversion into flaps, while that on the inner side is unimpaired. In other cases the author alleges no superiority for his operation over the original form. The flaps are formed by an incision starting near the outer border of the insertion of the tendo Achillis, passing obliquely along the outer side of the heel, below the malleolus, to the line of Chopart's incision, then over the top of the foot and down the inner side to the middle of the sole, then backward to the point of starting. The foot is then exarticulated, the calcaneum sawn through longitudinally, and the outer portion removed. The ends of the bones of the leg are removed just above the malleoli, the remaining portion of the calcaneum is brought up, and the sawn surfaces are secured in apposition. The advantages alleged for this operation are: (1) the preservation of the posterior tibial artery; (2) the preservation of the insertion of the tendo Achillis and the bursa mucosa retrocalcanea; (3) the great size of the sawn surface of the calcaneum, which is very nearly the same as that of the bones of the leg.

Renal Calculus.—Very little mention is usually made of the difficulty in distinguishing certain cases of spinal caries and renal calculus, but, according to Wright ("Med. Chronicle"), the chief difficulty in the diagnosis of renal calculus is to distinguish it from tubercular disease of the kidney and from spinal disease. In one of the cases which he describes there was no deformity or tenderness of the spine, while there was unilateral rigidity, testicular pain, intermission of symptoms, frequent micturition, nausea during attacks, oxaluria, and local pain and tenderness. Finally an abscess formed and was opened, revealing a small patch of caries of the spine, the kidney lying exposed in the wall of the cavity. In such a case the renal symptoms may probably be caused by the disturbance incident upon the obstruction of the vessels and the ureter, which might perhaps cause hæmaturia, as similar disturbances cause hæmaturia in cases of floating kidney. Excluding obvious cases, if lumbar pain and tenderness, with radiating pains and frequent micturition, are present, the case may be one of renal calculus, early tuberculous kidney, floating kidney, spinal caries, pyelitis, or superacid urine. The latter two yield readily to treatment, and so can be readily excluded. If no blood or pus has been found on repeated examinations at long intervals, the probability of spinal caries is great, especially if the patient is tubercular. If hæmaturia is found, even once, in large or microscopical quantities, if the symptoms are intermittent and of long duration, a renal calculus is probably present. Considerable pyuria indicates a tuberculous kidney. A floating kidney can usually be felt. In some cases the diagnosis can be made only by exploration. Mr. Wright thinks that renal hæmaturia is the only single symptom of anything like cardinal importance, and that this, if the trouble is of more than a year's standing, if there is no evidence of nephritis, and if no tumor is to be felt, makes the diagnosis of calculus fairly certain.

Subcoracoid Dislocations.—Caird ("Edinburgh Med. Jour."), after a consideration of reported cases and anatomical specimens, holds that this dislocation is "always associated with an indentation fracture of the head of the humerus, caused by impact upon the dense, hard, anterior lip of the glenoid." By this impact of the anterior lip of the glenoid cavity upon the anatomical neck he explains the occurrence of intracapsular fracture complicating dislocation. If there is complete fracture, the capsule may remain intact, retaining the upper fragment, or the capsule may give way and the displaced fragment remain outside. Old cases of the subcoracoid variety of dislocation at the shoulder joint are least favorable for reduction, on account of the more rapid atrophy of the glenoid from the pressure exerted upon it.

Luxated Internal Cartilage of the Knee Joint.—Lang (*ibid.*) advises, in order to reduce a luxated internal fibro-cartilage, flexing the knee fully, keeping it flexed for a little time, then rotating the leg firmly inward, and extending it somewhat suddenly while maintaining rotation inward, at the same time pressing the rim of the cartilage inward over the inner tuberosity of the tibia. He considers the inward rotation of the leg most important, as it brings the inner condyle of the femur more closely in apposition with the corresponding articular surface of the tibia, and by extending the knee while maintaining this inward rotation the internal condyle is kept moving truly in its socket and does not ride upon too much of the semilunar cartilage. This rotation is opposite to that in which the leg is placed when the luxation happens. A practical point of after-treatment is for the patient to habitually walk with the toes turned inward after recovery from luxation of the internal, or outward if it was of the external, cartilage.

Cancer and Phthisis as Correlated Diseases.—Williams ("Lancet") gives some interesting statistics taken from the "Middlesex Hospital Reports," for 1885, showing the inaccuracy of Rokitansky regarding the incompatibility of these diseases, and suggesting, on the contrary, a correlation between them. He arranges the evidence under two heads—family histories and necropsies. Of 134 families subject to breast cancer, one or more relatives among the adults were known to be subject to or to have died from phthisis in 74, or 55·2 per cent. Of 129 families subject to uterine cancer, one or more adult relatives were known to be subject to or to have died from phthisis in 60, or 46·5 per cent. In 53 families subject to cancer of the tongue and mouth, phthisis prevailed among the adults in 17, or 32 per cent. Thus in 316 cancerous families there was a history of phthisis in 151, or 47·7 per cent. There was a history of both phthisis and cancer in 18 out of 134 cases of breast cancer, and in 14 out of 129 cases of uterine cancer. In a large proportion of the foregoing cases the causes of death were unknown. If these had been eliminated, the proportion of phthisis would probably have appeared much greater, as may be judged from the following statement: 40·9 per cent. of the fathers and 33·9 per cent. of the mothers of patients with breast cancer, 40 per cent. of the fathers and 30·3 per cent. of the mothers of patients with uterine cancer, 29·4 per cent. of the fathers and 5·8 per cent. of the mothers of patients with cancer of the tongue and mouth, were of phthisical families. Regarding the prevalence of phthisis among these patients' brothers and sisters, there were one or more deaths among the adults from this disease in 40 out of 88 families subject to breast cancer, in 41 out of 81 subject to uterine cancer, and in 14 out of 52 subject to cancer of the tongue and mouth. Old, arrested phthisical lesions were found in 4 instances out of 44 necropsies in cases of breast cancer. In 2 other cases phthisis was in active progress. Old, arrested phthisical lesions were found in 12 cases out of 88 necropsies in cases of uterine cancer. Of 34 necropsies in cases of cancer of the tongue and mouth, in 5 cases old, arrested phthisical lesions, in 4 other cases phthisis in active progress, were found. Thus the two diseases were found associated in 27 out of 166 necropsies, or in 16·2 per cent.

Excision of the Larynx.—Gardner (*ibid.*) reports an excision of the larynx for epithelioma occurring in a man sixty years of age. A rectangular lead tube of the full diameter of the trachea was first inserted between the cricoid cartilage and the first ring of the larynx. Through this the anæsthetic was given, and it prevented the passage of blood down the trachea. The entire larynx was removed and the patient supplied with an artificial one, by means of which he could talk so as to be understood. Four months after the operation the patient was very comfortable and well nourished, but the disease had recurred.

Dupuytren's Contracture.—From the description by Langhans of the histological conditions of the cords of tissue removed in a case of finger contracture, as given by Kocher ("Ctrlbl. f. Chir."), the trouble seems to consist of neoplastic or inflammatory changes, partly in the palmar aponeurosis, partly in the neighboring tissues, including the coats of the arteries and also the capillaries, about which a subendothelial granular adventitia has formed. The principal change is the great increase in number and size of the cells of the tissues affected, causing a very great crowding, with the appearance of granules, either rod-shaped or oval, for the most part regularly arranged in a longitudinal direction, separated laterally by fibers of the ground-substance. These present, after staining with borax-carmine, under the microscope, the appearance of reddish stripes or bundles. Only in the middle of the most granular places is this regular arrangement interrupted. Here the granules are shorter and broader, and lie very close, in every possible relation to each other, so that the fibrous structure of the aponeurosis seems lost. When the granules lie upon the surface, they resemble vesicles. The adventitia of the arteries is very rich in granules, mostly oval. An occasional round one is seen, perhaps an oval one seen foreshortened. No migration of leucocytes was found to mark an inflammatory process. Langhans, on this account, is of the opinion that the trouble is neoplastic. Kocher maintains that the migration of leucocytes has not been excluded with certainty, and that their absence is not sufficient to prove the condition to be non-inflammatory. He considers it a chronic plastic inflammation. In either case, the evidence is indubitable that it is a disease of the palmar aponeurosis, and that a mere division of the skin or aponeurosis can not give lasting benefit, in whatever way it may be performed. Kocher maintains that the proper operation is the complete extirpation of the aponeurosis with all its offshoots through a single integumental incision, with immediate closure of the wound with sutures. Primary union usually takes place. If this is done in the early stages, a soft, non-adherent cicatrix remains. In old cases the skin is sometimes more or less adherent; the adherent portions should be excised.

If Langhans's opinion that there is a neoplastic formation is correct, the entire extirpation of the aponeurosis is the only operation which promises any security against recurrence of the disease.

Miscellany.

Medico-legal Entomology.—It is often desirable in the interests of justice to determine the length of time which has clapsed since death took place. Notwithstanding the greatest attention and the most careful observation and comparison, no really reliable data are available which enable the medical jurist to form a reliable opinion. Take, for example, the instance quoted by Mayer, of Hilsberg, where two old men committed suicide at the same time and by the same means. They were found in the same bed and were covered by the same bedclothes, yet their appearance was so different that, on the strength of the usual indications, it would have been easy to suppose that an interval of ten days or more had intervened between the death of one and the other. At first sight entomology would seem little likely to render assistance, but as a matter of fact recourse has often been had to this science. In 1855 Dr. Bergeret published the first recorded case of the determination of the date of death in the mummified corpse of a newly born child from the presence of the larvæ of insects, the result being subsequently confirmed by other evidence. Since then the same method of estimation has been resorted to on several occasions by Professor Brouardel and others. According to M. Mégnin, when a body is freely exposed to the air numerous insects at once deposit their ova on the surface, more particularly in the neighborhood of the natural orifices. The larvæ which follow penetrate the tissues and consume the moist constituents. This is accomplished by the diptera, known to the vulgar as "gentles," and certain coleoptera by whom the fluid constituents of the body are almost entirely absorbed, leaving the skeleton covered with fatty substances. It is at this period that the larvæ of the dermestes are developed, which consume every particle of fat. When this has been done, the body, reduced to the condition of a mummy, consists of the dried organic constituents, the tendons, the skin, and the undestroyed muscular structures, and these are now attacked by insects belonging to the genera *Tyroglyphus* and *Glyciphagus*, which complete the destruction of the remaining organic structures, leaving a pulverulent *débris* composed of their dejections and remains. The conclusions to be drawn from the foregoing observations are based on a knowledge of the life of the various generations of insects which co-operate in the destruction of the body, allowance being of course made for the influence of season and temperature on their activity. To afford anything like reliable information, a long familiarity with the physical characteristics, habits, and duration of life of these insects is indispensable, as an incomplete acquaintance may easily lead to the most serious errors of calculation, as was proved by a recent case in which an error of a year was made in estimating the date of death.—*British Medical Journal.*

Science and Religion.—Every candid man, whatever his convictions, must sympathize with the purpose of the Victoria Institute, whose primary aim has been to promote the examination and, if possible, the reconciliation of apparently opposite scientific and religious views on questions of common interest. The address delivered by Professor Stokes last Tuesday week in the institute was distinguished by a fairness of argument which was characteristic of this purpose. As he pertinently observed, it is necessary first of all, in order to arrive at a just conclusion from such discussions, that there should be a disposition to follow the guidance of truth wherever it may lead. The effort to do this does not imply merely that supple versatility of intellect which goes with the habit of lightly turning over prevalent opinions without any serious attempt at mental penetration. What it does imply is a resolute and patient sincerity in dealing with facts and opinions from whichever side of the discussion they may come, while admitting for all concerned the possibility of misunderstanding. If arguments of this kind were more often conducted in a dispassionate spirit, we should hear less of the antagonism between science and religion. We will confess that we have no belief in the reality of this supposed antagonism. The conflict, when it arises, is rather between the votaries of one creed or the other than between the creeds themselves. Nor is it found that the best minds engaged on either side are the most bitter partisans. It is not usually the laborious investigator of scientific problems who concerns himself with the disparaging statements of revelation. It is not the man whose chief desire is to model his belief, his daily thought and action, according to the plan of an inspired Scripture who cavils at the honest doubts of the scientific reasoner. In both of these types there is not wanting the charitable fellow-feeling which comes of personal sincerity and seeks to promote agreement wherever that is compatible with a conscientious exercise of judgment. Contentions arise much more commonly from the impatience of half-instructed disputants. The unwise immoderation of persons of this class has done much to obscure the harmony naturally existing between the truths of science and those of revelation—a harmony which has been repeatedly denied but never disproved, and which is to-day more widely admitted than perhaps at any former time in the history of this controversy. The address above mentioned was itself a model of reasonableness, and in this respect may serve as a pattern for any one who may hereafter discuss from either standpoint the subjects with which it dealt.—*Lancet.*

The Library of the Surgeon-General's Office, says the "Maryland Medical Journal," is now being moved into the fire-proof building erected for its special use on the Smithsonian grounds. Books are not available for use until after the first of September, by which time the library will be safely established in its new and permanent quarters.

The Association of American Medical Editors will give a banquet in honor of distinguished medical editors from abroad, on Monday evening, September 5th, at the Riggs House, Washington.

The Amœbæ of Dysenteric Stools.—The "Lancet" says that "Dr. O. Uplavici [see the article entitled "An Homeric Nod," in the Journal for August 6th, p. 161], from an extensive series of observations on dysenteric stools, has come to the conclusion that bacteria, though they are to be detected in large numbers and of many varieties in the evacuations of dysenteric patients, are nevertheless not the cause of the disease. He made out nineteen different micro-organisms, but not one of them was constant. It was otherwise, however, with amœbiform masses which were present in each of the sixty cases of dysentery, some of them of the acute and some of the chronic form, which he examined. These amœbæ have been described by various writers. The first observer to notice them appears to have been Loesh, of St. Petersburg, who mentions having found them in a case of dysentery in 1875, since which time Leuckart, Koch, Grassi, Cunningham, Normand, and more especially the Bohemian professor, Dr. Hlava, and Kartulis, of Alexandria, have paid considerable attention to these curious masses of protoplasm, both of the two last-named observers having recognized the causal relationship of these bodies to the disease. The observations of Professor Hlava were referred to in the 'Lancet' of March 19th. Dr. Kartulis found amœbæ in every case to the number of one hundred and fifty in which he examined the stools, and he entirely failed to find them in the stools of patients suffering from other diseases, such as typhoid fever and phthisis. He was unable to cause the amœbæ to propagate in any medium, and he injected them into the intestines of two pigs and a rabbit without result. Professor Loesh, however, had succeeded in getting them to multiply in one dog out of four into which he injected them. Dr. Uplavici [*sic*] has now prosecuted this line of research with better results. He injected fresh stools containing amœbæ into the rectums of seventeen dogs, and in two cases succeeded in producing dysentery with multiplication of amœbæ. In four cats out of six experimented on, positive results were obtained, but no effects were produced on eight rabbits, two fowls, and six guinea-pigs. In one case of dysentery 'giant amœbæ' were found, which, when introduced into a cat, were found in the stools."

A Curious Case of Hystero-epilepsy.—The "British Medical Journal's" Berlin correspondent says: "Professor Mendel recently showed to the Berliner medicinische Gesellschaft a very curious case of hystero-epilepsy. The patient was a glazier, aged fifty-one, who was deaf and dumb the whole day, except during the three hours from 6 to 9 o'clock A. M. The disease did not interfere with his mental faculties; he could look after his business, answering written questions in writing. In addition to the condition just described, he had a slight contraction of the right arm. If this limb were pressed near the wrist, he was seized with epileptiform convulsions, accompanied by loss of consciousness. Pressure on the long branches of the brachial plexus made him recover consciousness and stopped the convulsions. As the mental condition was not affected, Professor Mendel thought that the seat of the disease could not be the cortex of the brain. There was neither aphasia nor aphonia, properly speaking; consequently there was no lesion of the higher centers. Professor Mendel believed it to be due to a pathological change in the subcortical parts. He said that the prognosis was not bad, sudden recoveries taking place in all kinds of hysterical diseases. He proposed to treat the case by hypnotism and 'suggestion.'"

The Permanent Bath.—Since the brief note we published last week upon the alleged value of continued immersion in a bath for the relief of dropsy, we have seen a paper by Dr. James Barr, which will appear in the forthcoming issue of the "Liverpool Medico-chirurgical Journal." Dr. Barr gives details of the case of a girl, eighteen years of age, who was in a most critical condition from pyæmia, acute periostitis of the left femur, acute arthritis of the left hip and knee joints, and extensive bedsores. It was decided, as a last resource, to immerse the patient in a boric bath at a temperature of about 95° F. For seventeen weeks she was thus kept continuously immersed, with the most satisfactory results. Dr. Barr appends a case of pyæmia treated for four months in a bath by Mr. Chauncy Puzey some years ago. It is evident that the practice is one which might well be more widely adopted, and there does not appear to be any serious difficulty in carrying it out. As Dr. Barr points out, it was a plan long since advocated by Hebra in cases of extensive burns and widespread dermatitis, and at Vienna bathrooms specially adapted for the purpose are fitted up; but in this country it has been but seldom resorted to, one instance which occurs to us being a case of acute pemphigus, which Dr. Southey brought before the Clinical Society five or six years ago. Dr. Barr's paper is additionally interesting from the description he appends of the "hydrostatic bath" introduced by Dr. Neil Arnott, which consists in supporting the patient (without total immersion) in a bath of water of sufficient depth to permit of it. The description is given in the first edition of Dr. Arnott's famous work on the "Elements of Physics," and it is to be regretted that in the later editions this description should have been curtailed by the editors. The ordinary form of water-bed, although involving less management, is certainly not so well designed for the purpose in view as this very ingenious plan of Dr. Arnott's.—*Lancet.*

The Ninth International Medical Congress.—For the benefit of those of our foreign *confrères* who purpose attending the congress, the New York Bureau of Information, consisting of the Health Officer of the port, thirteen New York physicians, and Dr. W. H. Pancoast, of Philadelphia, has prepared the following circular, which has been sent to the foreign medical journals, and will be posted on incoming steamships:

The Ninth International Medical Congress will convene in Washington on Monday, September 5th. Washington is 200 miles from New York, six hours by railroad. Foreign steamers to New York land at New York, or at Jersey City or Hoboken, opposite New York. The New York Bureau of Information have engaged a reception parlor in the Hoffman House, corner of Broadway and 25th Street. The Broadway car-line, which is crossed by the car-lines from the steamer landings, passes in front of the hotel. Rooms at the Hoffman House, which is conducted on the European plan, can be obtained through the committee at a reduction of 25 per cent. One or more of the reception committee will be in attendance between 2 P. M. and 4 P. M. each day on and after August 20th. At other hours the clerk of the hotel will act for the committee. Members intending to attend the congress are requested to send their names in advance to the reception committee, Hoffman House, New York, so that the committee can secure for them reduced hotel and railroad rates.

[THE SAME IN FRENCH.]

Le neuvième congrès médical international s'assemblera à Washington le lundi 5 septembre. Washington est à deux cents milles de New York, six heures de voyage par chemin de fer. Les steamers étrangers débarquent à New York, Jersey City ou Hoboken. Ces deux dernières villes sont situées sur la rive opposée à celle de New York. Le bureau d'informations de New York a engagé un salon de réception au Hoffman House, au coin de Broadway et de la 25^{me} rue. Le tramway de Broadway, qui est traversé par tous les autres venant de tous les débarcadères des steamers transatlantiques, passe devant l'hôtel. Le comité a pris des arrangements avec le Hoffman House, lequel est conduit sur un plan tout à fait européen, pour fournir des chambres à une réduction de 25 pour cent. Un ou plusieurs membres du comité de réception, à partir de 2 à 4 heures chaque jour, sera à la disposition des voyageurs depuis le 20 août. Après les heures indiquées on s'adressera à l'employé de l'hôtel. Les personnes qui ont l'intention d'assister à l'assemblée du congrès médical international sont priées d'envoyer leurs noms d'avance, adressés au "Reception Committee, Hoffman House, New York," de manière que le comité puisse leur fournir chambres et billets de chemins de fer à prix réduits.

[THE SAME IN GERMAN.]

Der neunter internationaler medicinischer Kongress wird am Montag den 5ten September, zusammenkommen. Washington ist 200 Meilen (englische) oder 6 Stunden Eisenbahnfahrt von New York entfernt. Fremde Dampfer nach New York landen in New York, oder in Jersey City und Hoboken, welche New York gegenüber liegen. Das New-Yorker Auskunftsbureau hat sich ein Empfangszimmer in dem Hoffman House gesichert, an der Ecke des Broadway und der 25ten Strasse. Die Broadway Tramway, welche von allen Strassenlinien von allen Dampfbootlandungen gekreuzt wird, läuft gerade vor dem Hotel vorbei. Zimmer in dem Hoffman House, welches ganz in europäischer Weise geleitet wird, können durch das Comité zur einer Preisreduction von 25 pro cent. besorgt werden. Ein, oder mehrere Mitglieder des Empfangscomités werden zwischen zwei und vier Uhr Nachmittags an jedem Tage, an und nach dem 20ten August zugegen sein. Zu anderen Stunden wird der Geschäftsführer des Hotels das Comité vertreten. Mitglieder, die beabsichtigen den Kongress zu besuchen, werden ersucht im Voraus ihre Namen dem Empfangscomité, Hoffman House, New York, zu zu schicken, so dass das Comité ihnen reducirte Hotel- und Eisenbahnpreise sichern kann.

The Health of Boston.—During the week ending Saturday, August 13th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 8 cases and 1 death; scarlet fever, 12 cases; typhoid fever, 26 cases and 6 deaths; measles, 10 cases. There were also 20 deaths from consumption, 5 from pneumonia, 9 from whooping-cough, 10 from heart disease, 5 from bronchitis, and 16 from marasmus. The total number of deaths was 237, against 219 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 11th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 23d corresponded to an annual rate of 22·2 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 11·7, and the highest in Preston, viz., 36·7 in a thousand. Small-pox caused 1 death in Sheffield.

London.—One thousand nine hundred and seventy-seven deaths were registered during the week ending July 23d, including 48 from measles, 22 from scarlet fever, 1 from typhus fever, 24 from diphtheria, 100 from whooping-cough, 7 from enteric fever, 483 from diarrhœa and dysentery, and 18 from cholera and choleraic diarrhœa. There were 174 deaths from diseases of the respiratory organs. Different forms of violence caused 72 deaths, and 12 suicides were registered. The deaths from all causes corresponded to an annual rate of 24·5 in a thousand. In greater London, 2,375 deaths were registered, corresponding to an annual rate of 22·9 in a thousand of the population. In the "outer ring" 10 deaths from measles, 76 from diarrhœa, 6 from whooping-cough, and 7 from diphtheria were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending July 23d, in the sixteen principal town districts of Ireland, was 25·3 in a thousand of the population. The lowest rate was recorded in Newry, viz., 3·5, and the highest in Galway, viz., 40·3 in a thousand.

Dublin.—Two hundred and two deaths were registered during the week ending July 23d, including 21 from measles, 3 from whooping-cough, 1 from scarlet fever, 2 from enteric fever, 18 from diarrhœa, and 3 from dysentery. Diseases of the respiratory organs caused 28 deaths. Two accidental deaths were registered, and in twenty-seven instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29·8 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 23d corresponded to an annual rate of 20·9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Edinburgh, viz., 18·7, and the highest in Dundee, viz., 23·7 in a thousand. The aggregate number of deaths registered from all causes was 523, including 5 from measles, 5 from scarlet fever, 8 from diphtheria, 37 from whooping-cough, and 39 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 16th, corresponded to an annual rate of 26·3 in a thousand. The lowest rate was recorded in Lubeck, viz., 11·9, and the highest in Chemnitz, viz., 43·1. The average annual death rate during the week ending July 9th was 24·3.

Malta.—The United States consul, in his dispatch dated August 3d, states: "Cholera declared here."

Messina.—The following dispatch, under date of August 6th, was received from the United States consul: "Yesterday three deaths from cholera, originating here."

Naples.—A dispatch under date of August 4, 1887, states: "Several cases of cholera here."

Athens.—The Greek Government has ordered a strict quarantine of eleven days to be enforced at the Lazaretto in Corfu against all arrivals in Greece from Sicily, and from the eastern and western coasts of the Italian peninsula from Cotrone to Pizzo, in the Gulf of St. Euphemia.

Palermo.—The United States consul, in his dispatch under date of July 25th, relative to the existence of cholera, states that "on the 23d and 24th instant 5 cases and 4 deaths occurred among Palermitans (not fugitives). The deaths were very sudden, occurring within a few hours after the attack. The annual feast in honor of St. Rozalia, the patron saint of Palermo, which was to have taken place on the 13th, 14th, and 15th of July, has been indefinitely postponed, and the structures erected for the occasion, costing about fifty thousand francs, ordered to be taken down. . . . The weather is excessively warm, the thermometer ranging from 32° to 38° centigrade in the shade for the past eight or nine days. Many people have left the city for various parts, but those remaining appear resigned and tranquil, which is different to all previous alarms."

Curaçoa.—According to the decree published by the Government here, all vessels coming from Key West, Fla., will be subjected to a quarantine of fourteen days, including voyage.

Havana.—One thousand five hundred and fifteen deaths were registered during the months of June and July, 1887, including 233 from yellow fever, 155 from small-pox, 39 from enteric fever, 36 from "pernicious fever," 6 from diphtheria, 5 from measles, and 5 from croup. The United States sanitary inspector states that "the beginning of the small-pox epidemic was probably caused by the disembarking from one of the Spanish mail steamers to the military hospital of quite a large number of soldiers who were suffering from the disease."

Demerara.—The United States consul, under date of July 12th, reports that "British steamships, bound for the United States *via* West Indian Islands, frequently leave this port without applying for a bill of health. The steamship Klyde left here June 14th for Barbadoes to load for the United States, and the steamship Belair sailed July 8th for the same destination, both neglecting to call for bills of health. . . . I respectfully suggest that, if at any time Demerara should become an infected port, the health regulations of the United States may be evaded in this manner."

San Juan, Porto Rico.—In reply to an inquiry through the Department of State as to the reason for declaring vessels suspicious arriving from the United States, referred to in Abstract No. 62 of this series, the United States consul reports that the decree was issued by the Governor-General on account of the cholera epidemic in South America, from which, in his opinion, the United States was not sufficiently protected. On July 23d his Excellency the Governor-General issued a decree abolishing the board of health's edict requiring three days' observation or any quarantine of any vessels arriving from the United States having clean bills of health.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	July 16.	2,260,045	894	..	....	10	....	24	9	25
Paris	July 23.	2,260,045	853	..	....	8	....	20	4	25
Glasgow	July 23.	545,678	216	..	....	....	....	5	1	1
Warsaw	July 16.	439,174	232	..	....	8	....	....	....	....
Calcutta	June 18.	433,219	159	8	....	....	....	....	....	1
Amsterdam	July 23.	378,686	160	..	....	....	1	....	....	3
Rome	June 4.	369,214	137	..	....	6	....	1	1	4
Rome	June 11.	369,214	133	..	....	....	....	....	....	....
Munich	July 16.	269,000	153	..	....	....	....	1	3	2
Palermo	July 23.	250,000	120	5	...	....	....	....	11	5
Edinburgh	July 23.	228,373	93	..	....	....	....	1	....	2
Bristol	July 23.	223,695	65	..	....	....	...	....	4	....
Leipsic	July 23.	190,000	65	..	....	....	....	....	....	8
Genoa	July 23.	179,313	104	..	....	1	....	2	....	3
Trieste	July 16.	150,157	72	..	....	4	....	....	9	...
Havre	July 23.	112,074	73	..	....	1	...	12	....	....
Pernambuco	July 19.	111,000	64	..	....	....	1	....	....	....
Reims	July 23.	97,903	47	..	....	....	....	....	....	1
Edinburgh	July 23.	72,297	29	..	....	....	1	...	....	2
Gibraltar	July 17.	23,631	11	..	....	....	....	1	....	....

UNITED STATES.

Egmont Key, Florida (refuge station).—The United States sanitary inspector (Dr. E. Hebersmith) reports, under date of August 6th: "Case of yellow fever developed yesterday at station."

Delaware Breakwater Quarantine Station.—Bark Ada Gray, from Havana, arrived August 8th, with one case of yellow fever on board.

Sapelo Quarantine Station.—The medical officer in charge reports that the bark Lucia (sent to that station from Brunswick, Ga., for disinfection) is not infected with any contagious or infectious disease. "The case of intermittent fever yielded under the treatment of sulphate of quinine."

Key West—Yellow Fever.—Total number of cases to date, 233; deaths, 46.

THERAPEUTICAL NOTES.

The Treatment of Gonorrhœal Cystitis.—According to a contributor to the "Union médicale," M. Diday advises the patient to take, every half-hour for one forenoon, a tablespoonful of an infusion of 3 parts of hyoscyamus leaves in 100 of boiling water, refraining from all other drinks during that time. Its use is to be stopped if the mouth feels dry or if there is any drowsiness. This infusion is said to give relief almost always, and sometimes to cure exceedingly painful cystalgias. Applications of ice are useful when the cystitis is accompanied by prostatic engorgement, seminal emissions, or anal tenesmus; they are contra-indicated by the hæmorrhoidal habit. If the cystitis becomes chronic, it is to be treated with terebinthinate preparations, the application of deep revulsives to the hypogastrium, the loins, and the perinæum, and the use of the waters of Contrexéville and Evian. Whenever the affection is supposed to be kept up by the dartrous diathesis, the waters of Uriage are recommended, to be drank and used as baths.

Nitrate of Silver in the Treatment of Gonorrhœal Epididymitis.—M. Debout ("Normandie méd.") recommends the constant application of a compress soaked in a one-per-cent. solution of nitrate of silver to the scrotum on the affected side. If there is no relief in twelve hours, the strength of the solution may be doubled or tripled. No pain is produced, but the treatment can hardly be kept up more than five or six days, as an irritated state of the skin is then set up. The author thinks that the remedy does not act as a revulsive.

A New Cure for Stuttering.—Coen ("Ctrlbl. f. klin. Med."; "Lyon méd."), acting on the principle that a stutterer does not stutter when he speaks in a low tone, advises the following course of treatment: Absolute silence for a preparatory period of eight or ten days; speaking only in a low tone for another period of the same number of days; and a gradual elevation of the voice during the next ten or fifteen days.

Pavesi's Hæmostatic.—The "Gazette de gynécologie" gives the following formula:

Sulphophenic acid, Alcohol, each	25 parts;
Benzoic acid, Tannic acid, each	5 "
Glycerin	125 "
Rose-water	200 "

The sulphophenic acid is made by digesting 2 parts of sulphuric acid and 1 part of carbolic acid together for a few minutes over a water-bath. The benzoic acid is dissolved in alcohol and glycerin, and the tannin in alcohol. For tamponing the vagina, M. Chéron recommends cotton soaked in this mixture. While it coagulates the blood perfectly, it does not act as an irritant.

The Treatment of Phtheiriasis Pubis.—To kill the crab-louse ("Jour. de méd. et de chir. prat."; "Gaz. de gynécol."), it is better to use a five-per-cent. ointment of calomel than ordinary blue ointment. The following preparation, much used in Vienna, may be employed:

Petroleum, Balsam of Peru, each	15 parts;
Oil of laurel	1 part.

This should be washed off after three hours. Another efficient method is to bathe the parts twice a day with a mixture of a teaspoonful of a one-per-cent. alcoholic solution of corrosive sublimate and a pint of water. None of these applications kill the nits, but vinegar will, as it softens the adhesive chitin by which the ova are held on the hairs, when they should be detached.

A Mixture for Flatulent Dyspepsia.—"Lyon médical," quoting from the "Revue de chirurgie et de thérapeutique," gives this formula:

Tincture of gentian, Tincture of star-anise, Tincture of nux vomica, each	8 parts;
Chloroform	2 to 4 "

From eight to ten drops are to be taken before each meal, in a wine-glassful of water.

A Mixture for Infantile Diarrhœa.—The "Union médicale" credits Zinnis with this formula:

Fennel-water	75 parts;
Lime-water	6 "
Subnitrate of bismuth	3 "
Syrup of orange-flowers	15 "

A teaspoonful is to be given every two hours to infants whose dejections are green and contain masses of undigested casein. Farinaceous food should be withheld.

An Antarthritic Collodion.—Monin is credited by the "Union médicale" with the following formula:

Elastic collodion, Sulphuric ether, each	15 parts;
Salicylic acid	4 "
Morphine hydrochloride	1 part.

In cases of gout of the great toe, this should be applied every hour. The pain soon ceases, it is said, the swelling subsides, and metastasis is not to be feared.

The Treatment of the Bites of Insects.—Bernbeck ("Vereinsbl. pfälzer Aerzte"; "Allg. med. Ctrl.-Ztg."; "St. Petersburger med. Wchnschr.") gives these two formulæ:

(1.) Salicylic acid	1 part;
Elastic collodion	19 parts.
(2.) Corrosive sublimate	1 part;
Elastic collodion	1,000 parts.

On applying either of these solutions, the pain, it is stated, is allayed at once, and it is only in the rarest cases that the neighboring parts become swollen.

ANSWERS TO CORRESPONDENTS.

No. 25.—The addresses are as follows: J. B. Baillière et fils, 19, rue Hautefeuille; A. Delahaye et E. Lecrosnier, place de l'École de médecine; O. Doin, 8, place de l'Odéon; G. Masson, 120, boulevard St.-Germain; and G. Steinheil, 2, rue Casimir-Delavigne.

No. 26.—We understand that the meeting is to be held in New York, in November.

No. 27.—We think that such an undertaking as you have in mind could be made successful.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

MYALGIA
OF THE PHARYNX AND LARYNX.*

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Myalgia means, of course, muscular pain. The name defines as carelessly affections of muscles as neuralgia does those of nerves. But, with the modern increase of knowledge of morbid anatomy, the name has become more and more limited in use, until, at present, it represents a few still imperfectly known affections.

I would still further limit the use of it to a peculiar condition of the muscular tissues of the chest and upper air-passages; a condition the cause of which is understood, but the morbid anatomy of which is still to be discovered.

All the muscular tissues which are directly involved in the respiratory act may be affected; but those usually so affected are the pectoral muscles, the muscles of deglutition, and those of the voice. The first and principal symptom of this condition, the symptom which leads patients to seek advice, is a sense of uneasiness in one or more muscles of the chest or of the upper air-passages. This sense of uneasiness does not amount to pain, even on motion; in that respect it differs from both muscular rheumatism and neuralgia. But pressure upon it, as with the finger or some portion of the clothing, produces pain more or less acute.

In that respect it resembles the affections spoken of. The muscle affected shows no sign to touch, sight, sound, or thermometer, of the presence of disease. Adjoining tissues, not muscular, are not at all implicated in the process.

If the affected muscle is contiguous to an important organ, the invalid fears disease of that special part. Fears of heart disease and of cancer of the breast are unusually common, and are often the cause of seeking advice.

The second and equally important symptom is a sense of loss of power in the affected part. This is specially prominent when the muscles of one side of the chest or the muscles of deglutition are affected.

In the former case, complaint is made that the affected side does not inflate so much as the unaffected one. But the most careful examination in very many cases fails to substantiate any such condition. The affected muscles are as sensitive also to electrical tests as the unaffected. In the latter case, the condition is profoundly deceptive.

The pain on swallowing produces a natural shrinking from the act, and a partial loss of power is thus readily simulated.

Electrical tests can not be applied with advantage in such a location, and cocaine, affecting the superficial tissues only, does not aid us. But, after repeated trials with foods of different consistences, and on finding that the more fluid the food the less the difficulty of swallowing until the difficulty vanishes altogether, I have come to the conclusion that the pressure of solids on the passage down gives rise to the pain, which is similar in character to that produced by the pressure of the finger upon a muscle elsewhere. I have been able to verify this statement by pressure with blunt probes, and in this manner to locate the muscles affected.

In the worst cases of this description, the passage of bougies has been resorted to in order to eliminate the possibility of stricture of the œsophageal opening. In the majority of these cases also, there is an entire absence of any affection of the mucous membrane.

Negative evidence is furthermore given of the correctness of this conclusion in the fact that the disease affects at the same time some of the pectoral muscles. Laryngeal myalgia is far less frequent than the pharyngeal, yet a sufficient number of cases are interspersed with others of this disease to enable us to diagnosticate and differentiate it.

The symptoms are a sense of fullness with pain on pressure, a feeling of constriction, and the sensation of uneasiness with loss of power, denoted by the adoption of a suppressed vocal intonation. At the same time there is entire absence of inflammation of any sort, and the co-ordination and strength of the laryngeal muscles seem to be perfect. I am not a sufficiently acute observer to have been able to discover whether the affection attacks single muscles or single groups of muscles in the larynx.

The third symptom in this disease is an irritable pulse, increasing to cardiac palpitation in the cases of long standing or of severity, and with it a faint cardiac systolic murmur is perceptible, reminding one of mitral regurgitation.

It has not, however, the accentuation of insufficiency, nor the loud, blowing character of the anæmic bruit; it gives one the impression of the scraping noise made by a ship passing through buoyant flotsam.

The fourth symptom is tenderness, more or less marked, in the region of the spleen, and, in cases of severity or of long standing, the spleen is found enlarged. The conclusion has been reached that this is a muscular and not a sensory condition, because, first, there is no actual pain, no neuralgia; second, the unpleasant sensation does not follow the location of the nerves; third, electrical treatment has no effect upon it; fourth, it does not seriously impair the general health. Usually patients complaining of these peculiar sensations are found to be in fair condition—do not show to a casual observer any marked depreciation of the general health.

The cause of this peculiar condition is the absorption of the germ poisons of moist air or of unsanitary drainage. In short, it is a species of blood-poisoning, affecting particularly the respiratory muscular system and the heart. The absorption of the poison takes place through the lungs, whence it is taken up by the blood, and is thence discharged into the muscular fascias. The direct irritation of the poison is the cause of the palpitation, and the presence of the abnormal substance is the cause of the unusual cardiac tone.

It is a poison of some virulence and of quick action, since the disease is seen to reach its full development within a few hours, and, under the influence of proper treatment, to disappear almost as rapidly.

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* Read before the American Laryngological Association at its ninth annual congress.

Yet it is also capable of acting slowly—no doubt in greater attenuation — producing a chronic invalidism of some portion of the tract usually affected.

On account of the curable nature of the disease, it is impossible to give any data of the morbid anatomy of the parts affected, but the foregoing conclusion has been arrived at for the following reasons: 1. The presence of the disease beside malarial affections of all grades. 2. The presence of the disease beside diseases due to undoubted blood-poisoning, such as diphtheria and typhoid pneumonia. 3. The similarity of some of the symptoms to those of the graver diseases mentioned. 4. The indirect evidence from the absence of any real muscular or nervous disorder. 5. The rapid disappearance of all symptoms under an anti-malarial germicide treatment.

The treatment which has proved the most effectual consists of inhalations of oxygen, of rapid saturation with quinine, especially of the form containing also salicylic acid, and of chloride of iron. Local treatment by counter-irritation, whether with blisters, iodine, mercury, or the moxa, has proved unavailing. Local treatment also of the throat has been of no service whatever, and the patient and prolonged use of the electrical current has proved equally useless. Immediate change to a different locality and atmosphere has been advised, and, where this recommendation has not been accepted, relapses have been sure to follow.

In closing, permit me to give four cases from my note-books which seem to be fairly representative of the different conditions observed:

Case I.—Patient seen in consultation because of peculiar symptoms arising during the second week of repair of a broken leg. He was a strong, large man of twenty-four years of age, suffering from palpitation and distress from inability to swallow freely, with a sensation of choking. He complained of soreness of the chest, and cringed when pressure was applied over the chest-walls in front and on the sides and to the larynx. Pulse, 110; temperature below 98° F. The symptoms had come on suddenly two days before, and had become gradually worse, and his general health was being depressed by them. Examination revealed no inflammation of the larynx or pharynx, though there was much pain on pressure low down in the pharynx. I found that the patient had been placed in a ground-floor room where there was a disused sink, and beneath which was no cellar. To facilitate ease of care of the patient, I had him removed to the second story on the south side of the house. Ordered oxygen and quinine in large doses, and the symptoms gradually disappeared during the following week.

Case II.—A gentleman, aged fifty-two, who looked robust, had consulted specialists in this and other countries for an apparent lung trouble with occasional unpleasant sensations in the throat. The chief symptoms on first examination were: moderately accelerated pulse with faint systolic bruit; pain on pressure localized to the right side of the chest over the second, third, and fourth ribs; a feeling that his collar was too tight for his neck, with pain in the region of the larynx when pressed; a tendency to use a small, soft voice, which became strong and natural again under excitement. He was quite sure that he suffered from both heart and lung disease. He acknowledged having had malarial fever once and dumb-ague at times, for the cure of which he had taken a sea voyage. He confessed that these symptoms were not always present, but usually came on suddenly while he was at his country place, and were not relieved except by change of climate. His wife and daughter had both suffered from malarial disease in one form or another. He was quite sure that the right lung was contracted and the inflation of the right side much less than that of the left. His appetite was good, and he felt strong otherwise; but he was too nervous to sleep quietly.

Examination showed no lung or pleural disease, and no laryngeal congestion or inflammation. Examination of the urine disclosed nothing abnormal. On going to his country place, I found the house surrounded by a dense wood, and consequently damp. To the right and close to the house also was a dark pool with spongy banks. I ordered change of climate, with quinine and iron, and recommended thinning of the grove and drainage of the pool.

This occurred in August, 1884. My recommendations were followed, since which time the health of the family has been good, and the patient has had but one slight recurrence of the affection—in April, 1886—the apparent result of a visit to the country to oversee the erection of a new building.

Case III.—A young lady, aged nineteen, who looked healthy, had a good appetite and digestion, but had been obliged to be careful to take soft foods for some weeks, on account of an apparent difficulty and pain in swallowing, had constantly an uneasy sensation in the throat, which did not affect the larynx. She had heard of consumption beginning in this manner, and was anxious about it on that account. Menstruation was regular, normal in quantity, and painless. There was no constipation. She lived on a high bank overlooking a sluggish stream running through a deep and narrow valley. The mists filled the valley at night in summer, and the house was damp; the drainage consisted of an untrapped earthen pipe extending into the river and below the surface of the water, the house-end of which was open, directly under the living room of the house. The autumn previous she had had typhoid fever. At the time of my visit in April her mother was suffering, as *she* said, from neuralgia of the head and stomach.

Examination disclosed a systolic bruit, with a pulse of 100, temperature normal, tenderness on pressure all over the chest, although she had not complained of any unusual sensations there; tenderness on pressure over the spleen, but no perceptible enlargement; great sensitiveness to pressure all over the pharynx, with no unusual appearance of the mucous membrane; larynx normal. A sugar-coated pill was given her to swallow, and seemed to give great pain on its passage toward the œsophagus, although it passed down with ease. The patient felt well except when attempting to swallow; but this had produced considerable nervous excitement and consequent exhaustion. I ordered quinine salicylate, fifteen grains daily, and fifteen minims of tincture of chloride of iron thrice a day.

In order to test the treatment upon what seemed to me an allied disease, I sent her mother directions to use the same treatment. There was in both cases an improvement after a few days, and with my special patient an entire absence of the disagreeable symptom and the bruit after a lapse of about three weeks. She has, however, had two relapses, milder than the original attack, which have been routed by the same treatment.

Case IV.—An overseer of large quarries which send so much freestone to New York, aged sixty and over, had used tobacco and stimulants in rather more than moderation. He had had for years attacks of chills, which were often accompanied by pains in the chest and throat. Latterly he had had no regular chills, but did not feel well. About a year before, he had tried to swallow a "junk of meat"—that was his expression—and thought it would choke him. Since then solids had seemed to hurt his throat, and he had lived on soft food as much as possible. He used to be very fleshy, but looked at the time of examination in good flesh and health. He had suffered from diarrhœa. Physical examination gave a pulse of 60, temperature normal; spleen perceptibly enlarged and tender. The urine gave bile colors and high specific gravity and excessive acidity, but no casts and no albumin. The pharynx looked somewhat inflamed, and the mucous membrane thickened. Pressure with a probe produced pain at the mouth of the œsophagus. Bougies were passed without difficulty, though with much pain. The larynx was normal.

Here was a case which seemed to be complicated by the tobacco-and-alcohol habit; but I determined to try first the treatment adopted for other uncomplicated cases of this kind, and to permit the continued use of the stimulants as formerly. The treatment varied from that already prescribed only in the addition of free and repeated inunction of mercurial ointment over the region of the spleen until a marked alterative effect had been produced. The process of swallowing became so much better after a treatment of three weeks that solids could be taken with very little difficulty or pain, but at this time I lost sight of the patient altogether.

If I have been able in the statement of these cases to give the salient points, you may, on consideration of them, conclude that the point taken is a correct one—viz., that there is a more or less obscure affection of the muscles of the respiration and throat which may be called a myalgia malarialis.

PROFESSOR BELL'S INDUCTION BALANCE

USED IN A CASE OF

BULLET LODGED IN A BRAIN.

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The courts have just disposed of an indictment for murder against a young man accused of shooting a young woman. The case has excited peculiar interest among both legal and medical men, even more so among the latter, as several eminent physicians from Philadelphia and New York were associated in the management of the case. Their consultation resulted in an attempt to locate and remove a bullet lodged within the cranial cavity. On this occasion, for the first time, Professor Bell's induction balance and Dr. John H. Girdner's telephonic probe were entirely relied upon in the selection of the point over which the trephine should be applied.

The ball penetrated the skull a little above and in front of the left ear, on a line with the ramus of the jaw-bone, and, not having found exit through the opposite wall of the cranium, its whereabouts could only be inferred from the location and amount of manifest paralysis. The tests were made by Dr. John H. Girdner, of New York, in the presence of Dr. Pancoast, Dr. Wile, Dr. Wharton, and myself, of Philadelphia, Dr. E. C. Spitzka, of New York, Dr. Brown, the local physician, and six or eight of his colleagues. The characteristic sound manifest to the ear of the listener when the induction coils are brought in the neighborhood of a metallic substance was heard most distinctly when the instrument reached a spot above and considerably behind the right ear. All the physicians present, some twelve in number, with their backs turned to the patient, were permitted to test the instrument, and without a single exception agreed upon the same locality as that over which the telephone receiver conveyed to their hearing the greatest intensity of sound. After a general and serious consultation, during which each physician was called upon to express personal opinions, the application of the trephine over the spot designated and an attempt to remove the bullet were unanimously agreed upon, and declared to be the only chance for life remaining to the youthful sufferer. With the consent of her parents, Dr. Pancoast removed a button of bone seven eighths of an inch in diameter. The membranes of the brain bulged through the opening in the skull, presenting the strongest evidences of fluctuation. A puncture made with the point of a small knife liberated an ounce or more of sanious pus containing shreds of broken-down brain tissue; here, then, was an abscess, the cautiously explored cavity of which was found to equal the size of a hen's egg. The telephonic probe was now carefully introduced with the hope of obtaining contact with the foreign body. Upon two occasions Dr. Girdner professed to have elicited the peculiar telephonic "click" which evinces contact with a metal, but the extreme softness and peculiar delicacy of the tissues, as well as the precarious condition of the patient, would no longer permit of exploratory measures; hence all operative procedure was suspended. The trephine was applied on Wednesday afternoon, and the following Saturday the patient, after five weeks of suffering, died from the effects of her injury. The post-mortem examination (notes and illustrations from which are appended) was performed on Monday.

Autopsy.—Upon either side of the head were found two wounds, consisting of oval skin-flaps, convexities downward, which were partially healed, though the stitches on both sides were still *in situ*. The left flap bore the mark of a recent puncture situated on a line with the posterior border of the ramus of the jaw-bone, an inch above and in front of the ear. The skin-flap upon the right side occupied a position two inches above and an inch behind the pinna. An incision was next made through the tissues of the scalp from the insertion of the ears, over the top of the head, and the scalp reflected both ways.

The cranium on its left lateral aspect exhibited a perforation, like that made by a trephine, three quarters of an inch in diameter, involving the attenuated margins of both temporal and parietal bones. The center of the perforation was a quarter of an inch in front of and the same distance below the summit of the squamous plate of the temporal bone; the upper margin of the opening corresponded to the same horizontal plane as that of the summit of the squamous plate.

The right lateral aspect presented a perforation of the parietal bone circular in outline, measuring seven eighths of an inch in diameter, the center of which was an inch and seven eighths behind the coronal suture, one and one eighth above and half an inch behind the summit of the squamous plate, a quarter of an inch anterior to and half an inch below the parietal eminence.

The top of the skull was now removed on a circular line passing above the external occipital protuberance and slightly above the supra-orbital ridges in front. The vessels of the dura mater were found filled with blood, this membrane as well as those beneath it presenting all the conditions pertaining to general and diffuse meningitis. The membranes covering the brain contained perforations on both the right and left sides which corresponded in location to the openings in the skull previously described. Division of the membranes was next effected on a level with the edge of the bone, and they were reflected toward the middle line of the brain or falx cerebri; the latter structure was perforated near its lower concave margin on a horizontal plane slightly behind the left cranial opening and considerably in front of that upon the right side. The breech of continuity in the falx corresponded to punctures of the internal surfaces of both right and left hemispheres.

Cortical Brain Lesions, Fissures and Convolutions Involved.—Left hemisphere. Perforation through the fissure of Sylvius, entailing injury to the following convolutions (see Fig. 1): Posterior portion of third frontal. Lower end of ascending frontal. Lower end of ascending parietal. Anterior portion of first temporal. Also upon the internal surface of the left hemisphere, immediately below the calloso-marginal sulcus, the brain surface was perforated continuously through from the puncture described in connection with the fissure of Sylvius. Surrounding this lesion the cortex of the internal surface was considerably softened.

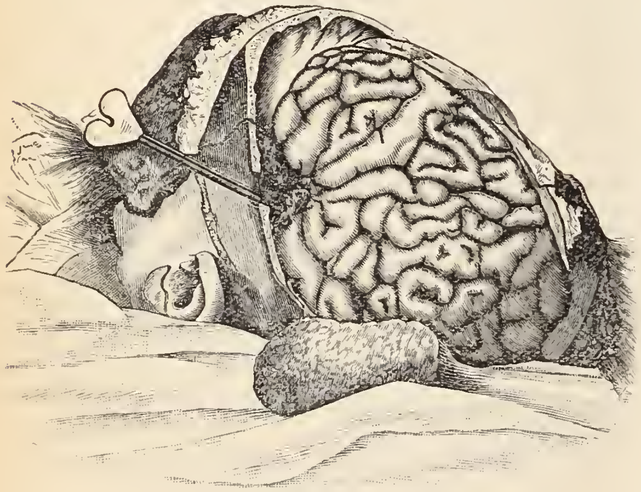

Fig. 1.—Point of entrance of bullet, left fissure of Sylvius.

Right-Hemisphere Cortical Lesions.—Destruction of the median portion of the ascending parietal convolution. Softening of the anterior termination of the inter-parietal fissure. Partial destruction of the antero-superior portion of the second parietal convolution. The internal surface of this hemisphere presented a punctured opening exactly opposite that described in connection with the left hemisphere.

After removing the reflected dura, including the falx cerebri, the brain was cut away in successive horizontal slices; at a depth of three quarters of an inch upon the right side and an inch or more upon the left, two cerebral abscesses were reached, representing cavities of the size of large horse-chestnuts, that of the right hemisphere being considerably larger. Surrounding these, the white substance of the brain not only was much softened and puriform, but contained blood-clots and extensive deposits of pigment. Slicing of the cerebrum was now continued with no new developments until a depth situated on a level with the perforation in the left fissure of Sylvius was reached, when a continuous track could be discerned, beginning at this perforation and proceeding in a direction obliquely backward and upward, finally ending in the right cerebral abscess (see Fig. 2).

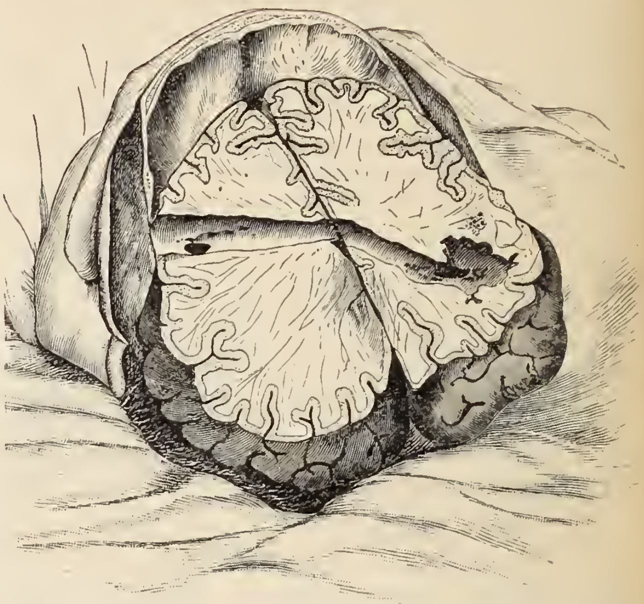

Fig. 2.—Section of the cerebral hemispheres showing the track of the bullet obliquely across from left to right; also the right cerebral abscess where the bullet was located by the induction balance.

The course of whatever projectile caused this lesion was deviated at the moment it reached the falx, for at that point it presented an obtuse angle tending more decidedly backward and upward. A continuance of deeper and parallel brain sections demonstrated the presence of two pus tracts or sinuses representing downward extensions of the abscesses previously described; of these two diverticula, the one leading from the right abscess had the larger diameter. In direction, both accessory channels converged obliquely downward and inward, tending to meet at a common focus upon the floor of the skull directly over the median line; here, resting upon the body of the sphenoid bone, was found a conical leaden bullet, the point of which was flattened toward its base; the circular outline of the latter corresponded to a No. 22. The foreign body rested upon the dura mater covering the body of the sphenoid bone, which location corresponded to the common terminus of the two pus sinuses previously described as leading from the abscess cavities. The bullet was not encysted, nor was there any indication that it would have become so had the patient continued to live.

The above-described brain lesions, associated with the finding of this bullet, would inevitably prove that the projectile, entering upon the left side of the head from a direction inclined obliquely upward and backward, traversed both hemispheres along the track seen in Fig. 3, and finally lodged in the right hemisphere, where it was located by the induction balance in the hands of Dr. Girdner several days previous to the girl's death. From this point, in virtue of its weight and other irritating qualities and the consequent breaking down of brain-tissue, it slowly gravitated to the floor of the skull, upon which it was found.

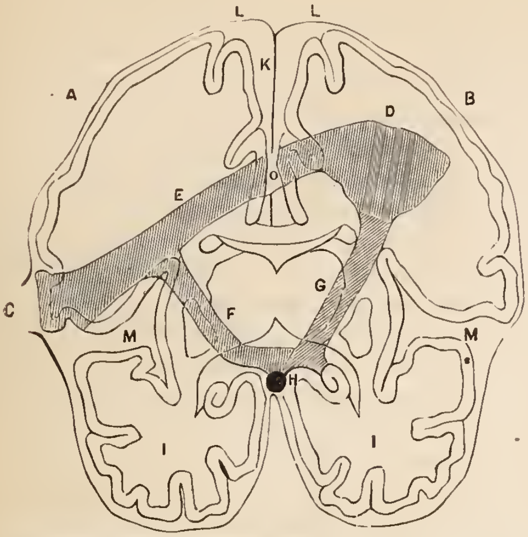

Fig. 3.—Diagram showing track of bullet and sinuses leading to the point where it was found at the post-mortem examination. A, left, and B, right hemispheres; L, dura mater; K, falx perforated at O; C, point of entrance of bullet; E, track through left hemisphere; D, abscess in right hemisphere; G, sinus leading from floor of abscess; F, sinus upon left side; I I, temporal lobes; M M, Sylvian fissures.

The tentorium cerebelli was intact, and the soft structures beneath it presented no evidence of either primary or secondary lesions. The skull-cap and dura mater, with the attached falx, as well as the bullet, were retained as evidence to be used in court. An incision was now made extending from the root of the neck to the pubes, and the contents of the chest and belly were subjected to examination. The heart was rather below the normal size, but presented no evidences of disease affecting either its walls or its valves. The lungs were also healthy, showing only a slight amount of post-mortem congestion along the region of the spine. The stomach and bowels were absolutely empty, but afforded no evidences of disease. The liver, spleen, pancreas, and kidneys were successively examined, all of which organs evinced absolute freedom from disease. The womb was that of a virgin; the ovaries, somewhat congested, presented the appearances met with at the onset of menstruation. Careful examination of the lining of the womb, as well as that of the vagina, fully corroborated previous conclusions as to the girl's virginity.

The weight of the bullet removed from the brain was:

The large piece found upon the floor of the skull.........	1·788	grammes;
The small piece found near the point of entrance.........	·048	"
	1·836	"

or 28·43 grains.

The average weight of bullets of the same caliber as those found in the revolver picked up at the place of the alleged shooting is 1·865 grammes, or 28·78 grains.

The opinion of the general public, taken from the secular press, their only source of information, was largely against the usefulness of the induction balance as a means of locating the bullet in the patient's brain. There was a failure to comprehend what could be reasonably expected from Professor Bell's apparatus—namely, the locating but not the extraction of bullets—hence failure to accomplish the ultimatum entailed condemnation of the accessory means employed in attempting it.

None of the physicians who witnessed the post-mortem examination could deny that the induction balance had correctly located the foreign body in the right hemisphere near the parietal eminence; that it had subsequently fallen from this position to the floor of the skull was evident.

EPILEPSY:

ITS CLINICAL MANIFESTATIONS, PATHOLOGY, AND TREATMENT.

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(Concluded from page 158.)

I can not refrain from giving a description of the convulsive paroxysms induced in rabbits after ligature of the great arteries of the neck, in the eloquent language of Kussmaul and Tenner. The quotation is made from the paper already referred to:

"General convulsions usually followed in from eight to eighteen seconds after complete withdrawal of arterial blood. We killed six rabbits solely for the purpose of determining in what space of time convulsions would come on. After the arteries had been laid bare, and the ligatures had been passed round, we allowed the animals to rest undisturbed in an erect position for a quarter of an hour, without making any experiments by compression. One of us then, as quickly as possible, tied the left subclavian and innominate arteries, while another, watch in hand, observed the time when the symptoms first manifested themselves.

"In a very strong male rabbit, two years old, general convulsions came on three seconds after the innominate had been tied; and this is the shortest period that we have noticed in any. In two female white rabbits, four weeks old, the convulsions appeared after an interval of twelve seconds; in a female gray rabbit, two or three years old, in ten seconds; in a male of the same age, in sixteen seconds; and in an old strong female, from four to five years old, in forty-five seconds. None of these animals lost during the operations any considerable quantity of blood.

"Out of a hundred strong rabbits, we met with four only in which, after perfect closure of the above-named vessels, convulsions did not appear till after four to six minutes, and one only, as already mentioned, in which they did not appear at all after the lapse of ten minutes and until the aorta had been opened."

The occurrence of convulsions is always preceded by various motor phenomena, which have been exhaustively described by Kussmaul.* The most important of these are as follows:

1. "Immediately after stoppage of the blood the various sphincter muscles of the face contract, especially, and in a very striking manner, those of the iris and eyelids; then, in the order of their distinctness, the conchæ of the ears, the nostrils, and the mouth. The jaws, which are generally already closed, become spasmodically locked. Then, usually a little before, but sometimes simultaneously upon the occurrence of general convulsions, the pupils and the fissures of the eyelids, ears, and nostrils are widened, sometimes the mouth also, very distinctly. The adductors of the lower jaw seem also for a few moments to become paralyzed; but during the attack the jaw becomes locked, either uninterruptedly or in broken succession, by the alternate occurrence of spasmodic and more feeble *abductions* and stronger *adductions*."

2. "Convulsive efforts are almost invariably made to turn the pupils toward the internal angles of the eyes, after which the eyeballs generally roll about, first inward, forward, and downward, then outward, backward, and upward, until at length the pupils are turned toward the external angles of the eyes, and are wholly or partially concealed by the upper eyelids."

3. "The eyeballs are first drawn back into the sockets, and again become prominent as the pupils dilate."

4. "Respiration is at first accelerated, but shortly afterward, a little while before the approach of general convulsions, it becomes prolonged and deep."

5. "The muscles of the neck generally become paralyzed and unable to bear the weight of the head, which sinks down upon the breast or side, the animals afterward falling down in a swoon on their fore feet, occasionally on their hind ones. The symptoms of paralysis are the more distinct and constant the greater the time that elapses before general convulsions come on."

"The signal for general convulsions is given by a tonic contraction of the muscles of the neck. Then commences a terrible scene, the more surprising by contrast if preceded by swooning. The head is drawn violently backward, the pupil becomes uncommonly enlarged, violent lock-jaw ensues, and the animal, if strong, is generally flung forward with great force to a distance even of from one to two feet, and sometimes over the shoulders of the observer seated before it. The legs are alternately contracted and extended by clonic convulsions in the most violent way; the enlarged pupil appears again fixed in the center of the palpebral fissure, as the eyeball is again rolled somewhat inward; respiration is scarcely to be perceived, while the heart continues throbbing very vigorously. The clonic convulsions gradually subside, assuming more the appearance of tetanus, and eventually disappear altogether, passing away as they do so from the front to the back. First, the muscles of the neck and fore legs become paralyzed, while the back part of the body is bent backward and the hind legs are tetanically extended until these movements also cease. The duration of these attacks was, according to several observations, from eighteen seconds to two minutes.

"Very frequently, after a pause of from fifteen to seventy-five seconds, a second attack comes on, always weaker and shorter than the first, and often limited to the hinder part of the body, in the form of tetanic convulsions; sometimes, however, affecting the whole body, under the form of clonic convulsions. We once observed such a second attack to last, in an exceptional case, two minutes. Sometimes, indeed, convulsions, in which the hind legs become tetanically stretched, recur even for a third and fourth time, at intervals of from fifteen to thirty seconds. They returned in the strongest and most regular manner in those animals whose arteries were tied forthwith, and whose strength had not been previously exhausted by experiments of compression. Toward the end of the attacks, urine and fæces were sometimes voided; at other times no such voiding took place, even when the bladder was full.

"In rabbits, cats, and dogs, dying from hæmorrhage, the convulsions are of exactly the same character.

"These convulsions present precisely similar features to those of epilepsy in their complete form, as the following enumeration of the most important symptoms will show:

1. "The animals fall down before general convulsions come on, and completely lose the spontaneous use of their muscles."

2. "They give the observer the impression of their being perfectly unconscious."

3. "Not one of the many animals operated upon cried out, so long as the circulation was interrupted, either before or during the spasmodic attack, and two only while the latter was abating. Subsequently, however, they began to cry piteously directly arterial blood began to flow again, or, at all events, soon afterward. From the want of power to cry, and from the gradual swelling of the veins of the brain during the attack, to which we shall direct attention further on, we infer that spasm of the glottis (laryngismus) took place."

4. "The pupils are dilated during the attacks, and, to judge from several experiments, appear rigid, the eyeballs being motionless. Before and subsequent to the attacks, however, and when at the very last gasp, the pupils being at the same time very much enlarged, the eyes of some animals that were accurately examined appeared sensible to the influence of light."

5. "The attacks commence with a tonic spasm of the muscles of the neck (trachelismus)."

6. "Respiration ceases, while the heart continues beating."

7. "The limbs are seized with strong clonic convulsions, and become at last spasmodically stretched."

Besides the experiments above referred to, Kussmaul and Tenner inaugurated a series of researches which had for their object the more precise localization of the cerebral regions from whence general convulsions arise.*

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* *Vide* article by Adolf Kussmaul in "Zeitschrift des Würtzburg. phys. med. Vereins."

* "On the Mode of Procedure for determining the Cerebral Region from whence General Convulsions after Profuse Hæmorrhage arise," by Adolf Kussmaul and Adolf Tenner. "The New Sydenham Soc.," 1859, vol. v, p. 60 *et seq.*

The *modus operandi* in these researches was as follows: Various districts of the brain were cut out, and a comparison of the effects produced by compressing the great arteries of the head before and after the operation was instituted. In this manner the following conclusions were arrived at: That anæmia of those parts of the brain situated in front of the crura cerebri produces unconsciousness, insensibility, and paralysis; if spasms occur with these symptoms, some excitable parts behind the thalami optici must have likewise undergone some change.*

This portion of their experiments is, however, open to criticism, since the sources of error are numerous. Among the latter, I will only mention the complications liable to arise from opening the skull—a procedure inevitably accompanied by changes in pressure, and, in this case, by escape of the cerebro-spinal fluid, and no little hæmorrhage.

I shall take occasion to refer at length to the further conclusions arrived at by Kussmaul and Tenner relative to the pathology of epilepsy in the subsequent paragraph on the mechanism of the epileptic seizure.

Landois has conducted some interesting experiments, which show the relation of venous hyperæmia of the brain and superior portion of the spinal cord to epileptoid convulsions.†

The mode of procedure in these researches was as follows: The right thoracic cavity was opened and the superior vena cava exposed in such wise that it was possible to close the lumen of the same by means of an ordinary artery forceps. Artificial respiration was instituted, in order to neutralize as far as possible the respiratory derangements unavoidably arising from opening one side of the thorax.

Among other phenomena, Landois observed, after closure of the superior vena cava (in the rabbit): 1. Retardation of the heart's action; and, 2. "Complete epileptoid seizures."

The latter observation is of great importance from a pathogenic point of view, since we are thus made aware not only that cerebral anæmia is capable of producing epileptoid convulsions (as shown by Kussmaul and Tenner), but that profound venous hyperæmia of the central nervous system is equally provocative of the same phenomena.‡ We can readily understand, moreover, why the convulsions are perpetuated during the second stage of the epileptic attack—that period of the seizure when the brain is evidently in a state of profound venous engorgement.

In 1868, Dr. H. Nothnagel # drew attention to the fact that, although it had long been known that irritation of the floor of the fourth ventricle gave rise to irregular general convulsions, no attempt had been made to locate the district in question with greater precision. That more exact researches in this regard were really necessary was proved by the fact that experiments, undertaken in the light of the popular conception with regard to the "convulsive" functions of the floor of the fourth ventricle, frequently failed to produce any spasmodic phenomena whatsoever.

Accordingly, Nothnagel instituted a series of experiments with a view to determining with greater precision the locality in the medulla whose irritation is followed by general convulsions.

The technique of these experiments was extremely simple. The animal was placed upon the abdomen and secured with appropriate appliances. The soft parts were then divided so as to expose the occipital portion of the head between the crista and protuberantia occipitalis. Then the skull was pierced by means of a strong needle (care being taken to avoid the openings for the vasa emissaria Santorini). Finally, penetration of the organs within was effected by means of a fine needle. This procedure was followed by compulsory movements, *general epileptoid convulsions*, or the animal remained perfectly quiet, according to the part penetrated. Confirmatory evidence was subsequently afforded by post-mortem examination.

In this simple manner Nothnagel was able to determine with great exactness the boundaries of what he has expressively termed the "convulsion center" (*Krampfbezirk*). The lower limit of this district is situated at the upper portion of the *alæ cinereæ;* the upper limit lies somewhat above the *locus cœruleus;* the inner limit is constituted by the outer lateral border of the *eminentiæ teretes;* the outer limit is more difficult to locate, but the upper boundary line appears to be formed by the *locus cœruleus*, whereas below it corresponds to the inner border of the *tuberculum acusticum.**

The depth of the district is very difficult to determine, as the slightest movement on the part of the hand of the operator causes the needle to penetrate unduly the yielding nervous tissue. When the needle penetrates the above-mentioned district (the "convulsion center"), the following phenomena are observed:

"At the moment of penetration severe opisthotonus and tetanic extension of the spinal column take place. Although firmly secured, the animal makes spasmodic movements with the extremities. When released it presents the spectacle of the most pronounced epileptoid convulsions. The extremities are the seat of violent irregular contractions, the posterior being sometimes more affected than the anterior limbs. At the same time the entire animal is thrown from side to side. . . . In from one half to three minutes the violence of the paroxysms subsides, and the animal remains quiet, but the extremities still continue extended and the spinal column is perfectly rigid." A blow upon the table is sufficient to again evoke the convulsions, but the latter sometimes break forth anew spontaneously.

From these experiments, Nothnagel concludes that the central point of departure of general convulsions is to be sought for in the pons. The lower limit of that portion of the central nervous system which is the point of departure of general epileptiform convulsions is represented by a transverse section situated at the lower boundary of the pons.*

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* *Vide* under head of General Summary, *op. cit.*, p. 105.

† "Ueber den Einfluss der venösen Hyperämie des Gehirns und des verlängerten Markes auf die Herzbewegung, nebst Bemerkungen über die fallsuchtartigen Anfälle," von Dr. Leonard Landois. "Centralblatt für die medicinischen Wissenschaften," p. 146, 1867.

‡ "Die Entstehung allgemeiner Convulsionen vom Pons und von der Medulla oblongata aus," von Dr. H. Nothnagel. "Archiv für pathologische Anatomie und Physiologie und für klinische Medicin," Bd. xliv, p. 1, 1868.

# *Op. cit.*, pp. 146 and 147.

* *Op. cit.*, p. 5.

These, then, are the experiments upon which Nothnagel has founded his theory of epilepsy. I shall take occasion to again refer to the latter in the subsequent paragraph on the nature of the paroxysm.

In 1850 Dr. Brown-Séquard † succeeded in demonstrating that certain lesions of the spinal cord in mammals are followed in a few weeks by convulsions bearing a strong resemblance to those of epilepsy. After a long series of experiments on guinea-pigs, he found, moreover, that all the lesions of the cord enumerated below are capable of evoking these convulsive phenomena:

1. Complete or almost complete transverse section of one lateral half of the cord.
2. Simultaneous transverse section of the posterior columns, of the posterior horns of gray matter, and of a portion of the lateral columns.
3. Transverse section of the posterior columns, or of the lateral columns, or of the anterior columns alone.
4. Complete transverse section of the cord.
5. Simple puncture of the cord.

Of these lesions the first two are apparently those which are most liable to develop the convulsive condition.

That portion of the cord situated between the seventh or eighth dorsal and the third lumbar vertebræ is most susceptible to wounds. Lesions of this region are particularly prone to develop the convulsive condition.

In the majority of cases, the convulsive symptoms appear during the third week subsequent to the lesion.

Sometimes the convulsions appear without the aid of extraneous excitation. As a rule, however, they are readily evoked by irritation of certain circumscribed portions of the integument. That portion of the body the irritation of which causes convulsions has been termed by Brown-Séquard the "*epileptogenous zone.*"

This author has also shown that section of the more important nerve-trunks, such as the internal popliteal and sciatic, and also lesions of the crura cerebri or corpora quadrigemina, are particularly prone to develop the epileptic condition. ‡

The offspring of animals affected by epilepsy caused by lesions of the nervous system may develop the epileptic condition, as Dr. Brown-Séquard has conclusively demonstrated.

A suggestive circumstance in connection with the epileptogenous zone is the fact that the latter is always situated on the same side as the lesion of the spinal cord or nerve; but, when the crus cerebri is injured, it is found on the opposite side to the lesion.

Westphal,* while endeavoring to determine whether the epileptoid convulsions previously described by Brown-Séquard might be determined by certain injuries to the skin, discovered the interesting fact that, when a guinea-pig receives a blow, or a series of blows upon the head, the animal is at once seized with a violent convulsive attack. The convulsions thus induced resemble in every respect those produced by Brown-Séquard in the same animal by injuries to the nerves or spinal cord. The seizure takes place immediately after the blow, or after the lapse of a few minutes. When the convulsions have subsided, the animal appears to recover its normal condition; and attempts to cause a renewal of the seizure by irritating that portion of the skin which Brown-Séquard has called the "epileptogenous zone" are without avail. A different state of things is, however, observed to exist after the lapse of a few weeks; for, if now the animal is irritated by pinching, particularly in the neighborhood of the lower jaw, an attack of convulsions is immediately produced.

The susceptibility to a convulsive condition evoked by blows is hereditary, like the corresponding state which Brown-Séquard succeeded in establishing by means of injuries to the spinal cord and nerve-trunks.†

Dr. V. Magnan ‡ and M. Challand # have shown in animals that absinthe, when introduced into the system, produces convulsions of an epileptoid character. The following experiment, performed by Dr. Magnan on a dog, is most interesting, as showing the possibility of producing hallucinations as well as epileptic attacks by the administration of absinthe: "In a dog weighing thirty-one pounds, into whose stomach we injected five grammes (about seventy-five minims) of essence of absinthe at 9.15 A. M., we observed a first attack of epilepsy at 9.45 A. M.; ten minutes later a second attack occurs, followed by a slight degree of stupor; quickly becoming himself again, the animal continues playful, answers a call, walks and runs easily. Quite suddenly, and without any provocation, he raises himself on his feet, with hair bristling, angry look, eyes injected and brilliant; he fixes his gaze on a wall which is completely bare, and on which there is nothing to draw his attention; bending down with the paws forward, and the neck stretched ready to spring, he advances and recoils alternately, barks furiously, and gives himself up to a furious battle; clashing his jaws, and making sudden movements as if to seize an enemy, he shakes his head from side to side, clinching his teeth as if to tear his prey. By degrees he becomes calm, but still looks several times in the same direction, growling, and then regains confidence completely." ‖

Finally, it is worthy of note that both Ferrier and Bartholow have succeeded in evoking epileptoid convulsions by the direct application of the faradaic current to the brain.

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* *Op. cit.*, p. 9.

† *Vide* "Comptes rendus de la Société de biologie," 1850, vol. ii; "Archives générales de médecine," 1856, vol. i (v. série, tome 7), p. 143; "Lancet," 1861; "Bull. de l'Academie de méd. de Paris," Jan., 1869. Also, "Researches on Epilepsy; its Artificial Production in Animals," etc., 1857.

‡ "Researches on Epilepsy," etc., by Brown-Séquard, 1857. Also articles in journals already referred to.

* "Ueber künstliche Erzeugung von Epilepsie bei Meerschweinchen," "Berliner klinische Wochenschrift," No. 38, 1871.

† *Op. cit.*, p. 451.

‡ "On Alcoholism, the Various Forms of Alcoholic Delirium and their Treatment," by Dr. V. Magnan, London, 1876, p. 26.

Challand, "Experiments made at the Hôtel Dieu at Professor Behier's Clinique," cited by Dr. Magnan in his monograph on "Alcoholism," p. 26 *et seq.*

‖ *Op. et loc. cit.*

Convulsions have also been caused by injury to the cortical motor areas.* In all experiments of this nature, in which electricity is employed for the purpose of exciting the nervous substance, it should be borne in mind that the localization of the current is a matter of so much difficulty that great caution should be exercised in drawing conclusions as to the relative functional importance of neighboring districts.

Having thus reviewed in succession those experimental researches which are best calculated to shed light upon the intricate questions of pathology involved, it now remains to discuss the mechanism of the attack itself—a task which will be greatly facilitated by the preliminary knowledge at our disposal.

Patho-anatomical Findings.—So various have been the changes recorded by pathologists in epilepsy that, if an attempt were made to construct an explanation of the seizure upon such a basis, it would be found to resemble in intricacy a veritable Gordian knot. There is, in truth, hardly an organ in the entire body which has not been found diseased in this affection. Ignoring the morbid changes in the viscera, which are evidently of collateral importance, it will be well for the completeness of the argument to bestow a glance upon the more striking appearances found in the brain, medulla, and the remaining portions of the cord, and their appendices.

First of all, then, it has been affirmed that the weight of the brain is increased in epilepsy; † but, on the other hand, equally positive statements are at hand which go to show that, in some cases at least, the weight of the organ is decreased.‡

Unequal proportions of the two hemispheres has also been alleged, but is certainly by no means so frequently met with as was formerly supposed.

Meynert and others have found sclerosis of the cornu Ammonis, but I believe he rightly considers this change of secondary origin only. But I would go a step further and maintain that the lesion in question can not possess the slightest importance whatever, so far as the development of the paroxysm is concerned, since, when this portion of the brain is removed, convulsive phenomena are neither evoked nor increased when they already exist.

Without entering upon a recapitulation of the various tumors which have been found associated with epileptic phenomena, I will content myself with enumerating some of the further and more obvious changes about the cord and brain which have been noted within the last few years: (1) atheroma and aneurysm of blood-vessels; (2) dilatation of the vessels of the superior portion of the cord; (3) temporary or permanent anæmia of the brain, resulting from general causes or from local vaso-motor insufficiency; (4) increase in quantity of the cerebro-spinal fluid; (5) thickening of the meninges of the brain.

Of these changes, the latter must be regarded as of most importance, since it is found in a considerable number of cases. But, though cortical function is interfered with in all true cases of epilepsy, it would be a decided mistake to ascribe such alterations to meningeal changes, since in a by no means insignificant number of cases neither they nor indeed any other morbid appearances are discernible, even upon the closest and most improved methods of scrutiny. There is consequently no question in my own mind that, where these evidences of meningitis do occur, they are, like most of the other changes recorded, to be regarded as of purely secondary origin—to be accounted for, perhaps, by the violent circulatory fluctuations which are so characteristic of the disease.

Still, when once established, these thickened membranes have an undoubted influence upon the prognosis. Thus, in three cases of severe epilepsy, with psychical complications, in which I have made post-mortem examinations, these thickened and adherent membranes were a prominent feature. In such cases there is, I believe, little or no chance of either recovery or benefit, since the derangements in cortical nutrition caused by such lesions must of necessity be profound in character, and practically irremediable.

The Mechanism of the Epileptic Seizure.—Enough has already been said concerning the various morbid anatomical findings in epilepsy to prove conclusively that there is absolutely nothing either characteristic or constant in their occurrence. Consequently, if epilepsy is to be regarded as a malady *per se*, and not as a mere symptom of multitudinous forms of central nervous disease, we must look elsewhere for an adequate explanation of the true nature of the affection. Undoubtedly the most consistent theory of the disease is based upon considerations derived from experimental physiology and pathology.

Without anticipating further, however, it will be well to review briefly the more prominent hypotheses relative to the nature of the disease which have been advanced by various writers on the subject from time to time.

According to Marshall Hall,* the mechanism of the seizure may be formulated somewhat as follows: (1) excitation of a sensory nerve or direct central excitation, which gives rise in the first place to reflex spasm of the muscles of the neck, causing compression of the cervical veins with consequent comatose symptoms; and, secondly, to a reflex tonic spasm of the muscles of the larynx, closing of the rima glottidis (laryngismus), causing asphyxia with consequent convulsions. In other words, the condition of unconsciousness is ascribed to venous engorgement, and the convulsions to general asphyxia.

Plausibility was lent to that portion of the theory which assumes contraction of the muscles of the neck as the cause of the venous stasis by the experiments of Reynolds. This observer found that contraction of the cervical muscles actually did produce stasis of the veins of the neck, with concomitant cerebral disturbances. But, on the other hand, Kussmaul and Tenner[*] have shown, by conclusive experiments, that occlusion of the larynx is capable of producing both coma and convulsions. As a consequence, they refuse to accept the first portion of Hall's theory. It may be well to add in this connection that both of these observers, guided by clinical and experimental data, arrived at the conclusion that the phenomena of the affection, and particularly the unconsciousness, could not be accounted for by any merely local anatomical lesion, since the concomitant participation of the cerebrum was evidently a *sine qua non.* Moreover, they conclude that it is not necessary to assume a constant or gross change appreciable by the pathological anatomist, but that a pervasive functional change of transient duration is sufficient to account for the phenomena of the ordinary epileptic seizure. Such a pervasive, transitory change they perceive in cerebral anæmia—a condition which, as is well known, constitutes a prominent feature of the first portion of the epileptic attack. Besides this clinical fact, they adduce the evidence afforded by their own experimental researches, to which extended reference has already been made, by which it was conclusively shown that, when the brain of an animal is suddenly deprived of arterial blood, either by ligation or compression of the four great arteries which supply the brain, or by bleeding, epileptic convulsions and coma are invariably produced.[†] These observers also endeavored to cause convulsions by faradization of the sympathetic nerves. Only in one case, however, were their efforts successful; but, had the interrupted galvanic current been employed, it is possible that more uniform results might have been obtained. These failures are, however, not to be accepted as absolutely negative, or as fatally damaging to the general argument advanced by these gentlemen, since their experiments with arterial compression and ligation served to show that the profound cerebral anæmia resulting therefrom invariably evoked general convulsions and unconsciousness.

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* "Untersuchungen über das Gehirn," 1864, and other writings of Hitzig.

† Echeverria, "On Epilepsy," New York, 1870.

‡ Meynert, "Vierteljahrsschrift für Psychiatrie," 1867.

* The following are the principal writings in which Marshall Hall has embodied his views relative to the pathology of epilepsy: "Essays on the Theory of Convulsive Diseases and Derangements of the Nervous System"; "Synopsis of Cerebral and Spinal Seizures of Inorganic Origin and of Paroxysmal Form"; "Synopsis of Apoplexy and Epilepsy, with Observations on Trachelismus, Laryngismus, and Tracheotomy," 1852; "On the Neck as a Medical Region," "Lancet," 1849; "Memoirs on the Nervous System," London, 1837.

But, while recognizing the important part played by cerebral anæmia in the *immediate* production of the epileptic attack, Kussmaul and Tenner do not fail to note that behind all this there must be an ultimate morbid state—an epileptic "condition" or an epileptic "affection" which is responsible for the occurrence of all the phenomena concerned in the production of the seizure. In speaking of this "proximate" or ultimate cause of the attack they proceed to state "that the proximate cause of the attacks can not be one of long duration, but an alteration merely of a temporary kind. . . . It must be quickly developed to its full extent, and pass during the attack through its different phases, and, when the latter are over, cease completely or nearly so. How otherwise is it reconcilable that, after an attack, the patient so frequently, and often for so long a time, recovers the full use of the action of the brain?" And again: "It can be no visible alteration of the brain, anatomically demonstrable, that can act as the proximate cause of an epileptic attack. . . . Every physician of the present day, who is at all judicious, will relinquish the hope, cherished with childish confidence by certain schools and times, that pathological anatomy is destined to give an explanation of the nature and seat of epilepsy, and he will only expect that result from the progress of the experimental physiology of the nerves. Material alterations in the brain and its membranous and osseous coverings are, it is true, most frequently found in those who have died from epilepsy and eclampsia, and are often enough recognized as the cause during life. Often, however, in spite of most careful examinations, no anatomically demonstrable alterations are found in the structure of the brain, and those which do exist must be generally regarded, especially in epilepsy, as produced by interruptions to the circulation and nutrition during the attacks, particularly if the latter have frequently been repeated and for a long time. Most of the patients suffering from this disease for years afford the usual appearances found in chronic diseases of the brain. . . ." But "not one of all the anatomical alterations in whose train epilepsy frequently appears—such as cicatrices, tubercles, and atrophy of the brain, or premature coalescence of the sutures of the skull, with lessening of its cavity—leads invariably to this disease."

The "disposition," then, "is nothing else but that state of the brain which forms the basis from which the attacks arise, and can scarcely be conceived of otherwise than as a very slight alteration of the whole brain, or of a narrowly circumscribed district, while the alteration which is the cause of the attacks must always affect the whole substance of the brain, or at all events the greatest part of it, and that, moreover, in an energetic manner."

The following is a general summary of the more important conclusions which Kussmaul and Tenner derived from their long series of experiments:

1. "The convulsions appearing in profuse hæmorrhage of warm-blooded animals (including man) resemble those observed in epilepsy."

2. "When the brain is suddenly deprived of its red blood, convulsions ensue of the same description as those occurring subsequent to ligature of the great arteries of the neck."

3. "Epileptic convulsions are likewise brought on when the arterial blood rapidly assumes a venous character, as, for example, when a ligature is applied to the trachea."

4. "It is highly probable that in these cases the attack of spasms depends upon the suddenly interrupted nutrition of the brain. It is not caused by the altered pressure which the brain undergoes."

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[*] "On the Nature and Origin of Epileptiform Convulsions caused by Profuse Bleeding," by A. Kussmaul and A. Tenner, "New Sydenham Society," 1859.

[†] These researches, as we have already seen, were, to a certain extent, anticipated by Sir Astley Cooper (*vide* "Guy's Hospital Reports," vol. i, 1836), who succeeded in demonstrating upon rabbits that ligature of both carotids and compression of the vertebrals gave rise to convulsions, suspension of respiration, and unconsciousness. The experiments of Kussmaul and Tenner were, however, more thorough, and were conducted upon cats and dogs as well as rabbits (*vide* Moleschott's "Untersuchungen," 1857, Bd. ii, pp. 247, 248, *et seq.*; also, "Epileptiform Convulsions caused by Profuse Bleeding," by Adolf Kussmaul and Adolf Tenner, "The New Sydenham Society," London, 1859).

5. "Epileptic convulsions in hæmorrhage do not proceed from the spinal cord."

6. "Neither do they proceed from the cerebrum."

7. "Their central seat is to be sought for in the excitable districts of the brain lying behind the thalami optici."

8. "Anæmia of those parts of the brain situated in front of the crura cerebri produces unconsciousness, insensibility, and paralysis in human beings; if spasms occur with these symptoms, some excitable parts behind the thalami optici must have likewise undergone some change."

9. "Anæmia of the spinal cord produces paralysis of the limbs, of the muscles of the trunk, and of respiration. When the anæmia suddenly attains its greatest intensity, then only, and even then but rarely, do slight trembling movements of the limbs precede paralysis. The sphincter ani acts analogously to the constrictor muscles of the face in anæmia of the brain—that is, it contracts spasmodically before it relaxes."

A more explicit account of the experiments from which Kussmaul and Tenner derived these conclusions has already been given in the paragraphs on "Experimental Researches." These experiments constitute without doubt one of the most brilliant chapters in the whole range of experimental pathology, and it is difficult to conceive how a theory of epilepsy possessing the slightest title to consistency could have been formulated had they never been undertaken.

While it is doubtful whether some of the opinions expressed by the gifted authors can at present receive unqualified indorsement, there is no denying the great perspicuity displayed throughout the entire argument. When interpreted, moreover, from the broad standpoint of more recent scientific acquisitions, their importance to scientific medicine can hardly be overestimated.

Finally, I will only add that I have been able to confirm many of the statements and conclusions of Kussmaul and Tenner by researches conducted on human beings. As I shall have occasion to refer at length to these researches in other portions of this article, I will content myself with merely indicating the titles of the more important papers and monographs in which they are embodied.*

Nothnagel,† as we have already seen, has formulated a theory of the paroxysm, which is the outgrowth of a series of experiments performed with the object of determining the rôle played by the medulla oblongata and pons Varolii in the evolution of general convulsive phenomena. In the course of these investigations this observer ascertained that there is a limited spot in the floor of the fourth ventricle, the irritation of which (with a needle, etc.) causes tonic and clonic spasms of the entire system of voluntary muscles. This spot has been appropriately designated by him as the "convulsion center."

According to Nothnagel's theory, the convulsions of the epileptic paroxysm are due to irritation of this circumscribed locality.

But, while such irritation is sufficient to evoke the spasms, it is not adequate to account for the unconsciousness. Accordingly, to overcome this difficulty, Nothnagel assumes a concomitant irritation of the neighboring vaso-motor center. As a result of this irritation the arteries of the brain, as well as those of the rest of the body, are contracted, causing anæmia; and it is to this cerebral anæmia that the unconsciousness is due. The co-ordinate excitation of the vaso-motor and "convulsion center" constitutes, then, according to this theory, the essential pathological feature of the typical paroxysm.

But, while this is assumed to be the course of events in typical cases, it does not serve to explain the occurrence of variations in the character of the seizure.

Accordingly, with a view to rendering the theory as broad as possible, Nothnagel furthermore assumes that the centers above referred to are in a certain sense independent of each other, so that one may be irritated without the other. Thus, when the "convulsion center" is irritated alone, the paroxysm is characterized by convulsions without unconsciousness; whereas, when the "vaso-motor center" is excited, mental disturbances and loss of consciousness are the prominent features.

This is certainly an ingenious method of avoiding a logical dilemma; but, unfortunately, the extreme contiguity of the two centers renders their independent irritation extremely improbable, since any morbid changes affecting the one would be practically certain to involve the other.

With regard to the *nature* of the irritation which calls forth the activity of the above-named centers, Nothnagel confesses that little can be said with certainty.* He believes, however, that *in epilepsy* "the convulsions do not depend upon an anæmia of the pons, acting as an excitant upon the convulsion center";† though admitting that anæmia of the pons *can* occasion convulsions, as shown by certain of Kussmaul's experiments.

As to the second stage of the attack, Nothnagel believes that the intense venous hyperæmia is attributable to the violent contractions of the muscles of the neck, which, pressing upon the large veins, impede the return of the venous blood to the heart. The continuance of unconsciousness, as well as the convulsions, are to be ascribed to this venous hyperæmia, one of the effects of which is to cause irritation of the "convulsion center."

It now remains to consider briefly that theory of epilepsy which ascribes the essential feature of the disease to a discharge or explosion of nerve force. Dr. Robert B. Todd * was the first to regard the disease from this point of view. It is impossible to read the paper in which this gifted writer formulates his views upon this, one of the most intricate chapters in pathology, without experiencing a sense of admiration for the perspicuity and logical adroitness displayed.

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* Vide "Medical Record," Feb. 18, 1882. Article on "Sleep," "Medical Record," July, 1882. Monograph on "Carotid Compression," Anson D. F. Randolph & Co., New York, 1882. Paper read before the New York Neurological Society, June 6, 1882, and subsequently published in the "Philadelphia News" of June 17, 1882, and also in the "American Journal of Neurology and Psychiatry," 1882. A paper on "Electrization of the Sympathetic and Pneumogastric Nerves, with Simultaneous Bilateral Compression of the Carotids," "New York Medical Journal," Feb. 23, 1884. Monograph on "Brain Rest," G. P. Putnam's Sons, New York, 1883. A treatise on "Brain Exhaustion," with some preliminary considerations on cerebral dynamics, by J. Leonard Corning, M. D., D. Appleton & Co., 1884. "The Electro-mechanical Tonus of the Cortical Blood-vessels," a paper read before the New York Neurological Society, and subsequently published in the "Medical Record," February, 1885.

† "Ueber den epileptischen Anfall," von H. Nothnagel. Volkmann's "Sammlung klinischer Vorträge," Leipzig, 1872.

* Von Ziemssen's "Cyclopædia," article "Epilepsy," by H. Nothnagel, vol. xiv, p. 269, seventeenth line from the top.

† *Op. cit.*, p. 268.

Dr. Todd considers that the abnormal explosiveness of nervous tissue, which is the principal factor in his theory of epilepsy, is due to the gradual accumulation of a morbid material in the blood. This foreign substance finally becomes so abundant as to cause the discharge of nerve force from the brain, by which the phenomena of the fit are produced.

This theory of epilepsy was suggested to the mind of Dr. Todd from the fact that the disease occasionally occurs with renal affections. "Upon this fact of the dependence of attacks of epilepsy upon renal disease," he says, "I have been enabled to construct a theory of the cause of epileptic fits generally." Continuing the argument, he adds: "I hold that the peculiar features of an epileptic seizure are due to the gradual accumulation of morbid material in the blood, until it reaches such an amount that it operates upon the brain in, as it were, an explosive manner; in other words, the influence of this morbid matter, when in sufficient quantity, excites a highly polarized state of the brain, or of certain parts of it, and these discharge their nervous power upon certain other parts of the cerebro-spinal center in such a way as to give rise to the phenomena of the fit. A very analogous effect is that which results from the administration of strychnine, which is best seen in a cold-blooded animal like the frog. You may administer this drug in very minute quantities for some time without producing any sensible effect; but, when the quantity has accumulated in the system up to a certain point, then the smallest increase of dose will immediately give rise to the peculiar convulsion phenomena. The animal is thrown into a series of paroxysms of opisthotonos, which exactly imitate the phenomena which we often witness in tetanus, as it affects man and some of the higher animals." †

This, then, is Dr. Todd's conception of the causation of the paroxysm—the so-called humoral theory of epilepsy.

The theory enunciated by Dr. Todd has been modified and developed by Hughlings Jackson.‡ According to Dr. Jackson, epilepsy, "defined from the paroxysm, is a sudden, excessive, and rapid discharge of gray matter of some part of the brain; it is a local discharge. To define it from the functional alteration, we say there is in a case of epilepsy gray matter which is so abnormally nourished that it occasionally reaches very high tension, and therefore occasionally explodes. The two definitions are different faces of the same thing."

This discharge, beginning at the cortex, is propagated along the course of the centrifugal nerve channels. As to the loss of consciousness, Dr. Jackson feels justified in ascribing it to the transitory exhaustion of nervous energy, consequent upon the previous inordinate discharge.

The fact that in a considerable number of epileptics the paroxysm is ushered in by a psychical warning, or an aura of the special senses, has been urged as strong evidence in favor of the proposition that the discharge begins in the convolutions. And, in truth, it must be acknowledged that it is difficult to conceive how a primary functional implication of the medulla or pons Varolii could evoke phenomena which, by common consent, are conceded to be the expression of the activity of the highest centers.

According to this theory, then, the protoplasm of the ganglion cells is in an unstable, super-explosive condition, attributable, perhaps, to excessive nutrition (as the result of expanded blood-vessels, etc.). Jackson has not, however, remained content with explaining the *modus operandi* of the ordinary epileptic paroxysm, but has also sought to render his theory sufficiently comprehensive to account for the evolution of irregular forms of the attack. Accordingly, it is assumed that in one class of cases certain portions of the gray matter may be affected, while in a second class of cases other portions may be involved. The various modifications of the seizure are, therefore, explained by a consideration of the physiological properties of the group of nerve-cells involved in each case.

While heartily indorsing the main features of this theory, I can not accept it in all its details, for the very excellent reason that cerebral physiology is not as yet sufficiently developed to admit of such pathological refinements.

Of Dr. Jackson's able researches on the pathology of epileptiform seizures I refrain from speaking on the present occasion, since the phenomena in question owe their origin to coarse organic lesions, and are consequently not included within the scope of an article of this character.

METRORRHAGIA AT THE TIME OF PUBERTY.

By HENRY C. COE, M. D.

Sudden hæmorrhage from the uterus is always an alarming symptom, especially to a patient in whom the phenomenon is noted for the first time; when occurring in a child, it naturally creates no small degree of apprehension. While the gynæcologist is prepared to expect every variation in the amount and manner of appearance of the menstrual flow, both at puberty and during the climacteric, to the general practitioner these variations are often unexpected, not to say mysterious. Profuse metrorrhagia nearly always indicates to the specialist the necessity of making an immediate local examination, since his experience teaches him that the failure to adopt this as a routine practice may result in the overlooking of a serious pathological condition. It is true that he sometimes fails after the most careful search to find any adequate local or general cause for the hæmorrhage, but this renders the examination none the less obligatory. There are some circumstances under which such an examination is not to be thought of unless it is absolutely necessary. I allude to cases included under the heading of this article. In dealing with them it is advisable to avoid, on the one hand, a premature resort to local treatment, and on the other a timidity in employing the only means of establishing an exact diagnosis by the vaginal touch. The specialist is apt to err in the former direction, the general practitioner in the latter. Where the patient is a child, the physician's duty becomes a delicate and painful one.

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* "A Clinical Lecture on a Case of Renal Epilepsy, and on the Treatment of Epilepsy in General," by Robert B. Todd, M. D., "Medical Times and Gazette," Aug. 5, 1854.

† *Op. et loc. cit.*

‡ "West Riding Lunatic Asylum Medical Reports," 1873.

Excessive hæmorrhage from the uterus at the beginning of puberty is sufficiently infrequent to awaken some interest. While amenorrhœa, irregularity in the character and time of appearance of the flow, and dysmenorrhœa, are commonly observed, the amount of blood lost, even by plethoric subjects, is seldom sufficient to be compared with the hæmorrhage observed later in life, especially at the menopause.

The following brief notes of a case now under observation will serve as an illustration:

J. B., aged thirteen, is a perfectly healthy girl, well developed for her age, her breasts and pelvis presenting signs of maturity. She is of a full habit and phlegmatic disposition, and has never shown any evidences of sexual precocity or nervous excitability. She began over a year ago to menstruate at long intervals, and since spring the flow has reappeared more regularly, and on one or two occasions has been profuse, but not excessive. There has never been any dysmenorrhœa. She has now been at the sea-shore nearly five weeks, and has during that time been exposed to the usual excitement, late hours, improper diet, etc., incident to life at a fashionable watering-place. She has, however, neither danced nor indulged in sea-bathing. She had just finished menstruating when she left home, her last period dating from the 26th of June. The flow was moderate. She had been at Long Branch two weeks, and had felt as well as usual. She went to bed about ten o'clock on July 13th, without being conscious of any abnormal sensations, and was awakened during the night by cramps in the stomach, which were not particularly severe, accompanied by a sudden gush of blood from the vagina. The flow continued steadily, and when I saw her the next morning she presented the appearance of a woman after a smart post-partum hæmorrhage, her night-dress, the sheets, and the mattress being literally soaked with blood, while there was a large mass of blood-clot in the bed. From the shape and appearance of the clot, it was evident that it had been retained in the vagina for some time and had been forced out by the expulsive pains. The blood was bright-red in color, and did not have the characteristic menstrual odor. The patient lost a moderate amount of blood during the day, but at the end of the following day the flow had entirely ceased. She presented no symptoms referable to the hæmorrhage, except slight faintness and vertigo on raising her head from the pillow. Her pulse remained full and slow, and her skin retained its healthy color. I estimated the loss of blood at about twelve ounces. The child was kept for three days in the recumbent posture, on low diet, and had twenty-five drops of the fluid extract of *Hydrastis canadensis* every six hours. On the fifth day the mistake was made of allowing her to walk down stairs to breakfast, since there had been no show for two days. While eating she felt a peculiar sensation in her stomach and at once returned to her room and lay on the bed. Suddenly there came a gush of blood, as on the first occasion, although the amount was somewhat smaller than before. The use of hydrastis, which had been discontinued, was resumed in doses of twenty-five drops every two hours without results. Several napkins were saturated in rapid succession, and the child's mother became greatly alarmed. Ergotin in full doses was administered every two hours, and an ice-bag was applied over the hypogastrium, but was removed at intervals of half an hour. A pint of hot water containing two drachms of alum was carefully injected into the vagina with great difficulty. The little patient had no pain, except an occasional cramp which preceded the expulsion of a clot. Her pulse and temperature were not affected. The flow diminished during the afternoon, but was still excessive, even for an adult. The blood was bright-red in color, and was certainly not menstrual in character. After consultation with Dr. Mackenzie, I decided not to suggest a local examination except as a *dernier ressort.* The use of the ice-bag was discontinued, but during the next forty-eight hours two alum injections and two drachms of the fluid extract were given daily. The hæmorrhage gradually diminished, until by the fourth day only two ounces of blood were lost. On the sixth day there was no show and the patient was allowed to sit up and walk across the room, as her appetite was impaired by the close confinement. She felt a little weak, but was not otherwise affected by the loss of blood. She was not allowed to leave her room. Four days after the complete cessation of the last hæmorrhage the regular menstrual flow began at exactly the proper time. There was no pain, but the flow was unusually profuse. She was kept absolutely quiet in bed during the first five days, and received twenty-five drops of aromatic sulphuric acid every six hours, with alum injections night and morning during the first two or three days, neither of which seemed to have the slightest influence upon the menorrhagia. She will continue the use of the acid until the next period, together with Blaud's iron pills. She will go to the mountains as soon as she is able to travel, since I am convinced after careful observation that the excessive loss is directly due to residence at the sea-shore.

Note, August 20th.—Since the foregoing was written, the patient has been at the White Mountains, and has had no return of the metrorrhagia.

The interesting points in this case are:

1. The amount of blood lost by so young a patient, and the absence of general disturbance in consequence.

2. The time and the irregular mode of occurrence of the hæmorrhage without any known exciting cause.

3. The fact that the blood came with a gush, and was not preceded by any marked premonitory symptoms. In most cases of uterine hæmorrhage there is a "show" before the excessive flow occurs.

4. The possible influence of locality upon pelvic congestion, especially in young girls. The amount of blood lost was certainly unusual for so young a child, and can not be explained on the theory of plethora, since the patient, although large of frame and well developed, was not particularly "full-blooded." Moreover, no functional or organic trouble could be discovered which might account for the phenomenon.

It would naturally be inferred that a child, after flowing for nearly three weeks as profusely as a woman after a miscarriage, would be quite weak and anæmic. On the contrary, she is apparently as well as ever, and has an excellent appetite. The hæmorrhage was essentially inter-menstrual in character, being separated by distinct intervals from the preceding and the following periods; hence it can have had no direct connection with the menstrual *nisus.* The fact that the condition was true metrorrhagia, and that the flow began suddenly, diminished under the influence of rest, and then as suddenly reappeared in consequence of slight exertion, suggests a comparison with certain cases of uterine fibroid. May there exist some morbid condition of the uterus or its annexa, such as a displacement, or a fibrous polypus, or possibly some ovarian trouble? But this is highly improbable from the fact that the patient has never had a similar experience before; that dysmenorrhœa (or even actual pain) has never been present. If the hæmorrhage had been due to either of these causes, it would not have been so strictly inter-menstrual in its time of appearance. The physical character of the blood is worth noting. It had not the characteristic menstrual color and odor, but was bright red, and coagulated firmly. The coagula which were expelled from the vagina had undoubtedly formed within that canal (practically closed against their exit), because such masses could never have accumulated within a virgin uterus. Palpation of the abdomen showed that the latter organ was neither enlarged nor sensitive; there was no tenderness in the ovarian regions.

An interesting question in this case is this: Is there a possibility that the increased pelvic congestion may be due to climatic influences? I think that this is quite probable, since many ladies have told me that they flow more frequently when at the sea-side, and young women frequently complain of disturbances of menstruation. Undoubtedly, in the case of a young, impressionable girl, whose menstruation is only recently established, other influences (improper diet, late hours, and unaccustomed excitement) are active in heightening the congestion. But that these alone are not enough to account for the hæmorrhage in this instance is shown by the fact that it was quite as profuse when this patient was kept in bed.

As regards the practical side of the matter, it may be said that the diagnosis was naturally somewhat uncertain at first, but, at the same time, there were sufficient indications that there was no serious local trouble to make me unwilling to suggest an examination, even after the second attack of flooding. It would have been necessary to administer an anæsthetic, and the nervous shock to the little patient would, doubtless, have increased the congestion. Of course, if the excessive flow had continued for several days, and the girl had given evidence of failing strength, it would have been unwise to defer the examination. Notwithstanding the irregular time of appearance of the hæmorrhage, with regard to the menstrual epoch, I was convinced that the congestion was rather hyper-physiological, so to speak, than pathological.

The prognosis in such a case is naturally most interesting to the parents. Is the hæmorrhage dangerous, is it likely to recur every month, and will the child outgrow it? The fact that there was absolutely no disturbance of the circulation proves that the loss of blood was not sufficient to awaken alarm, at least in this particular instance. Since it had never occurred before, and there was no discoverable cause, except the probable influence of climate, I felt justified in promising that the metrorrhagia would probably not recur if a change was made in the residence, and that the menstruation would eventually become normal, although it would doubtless be somewhat profuse. In fact, the mother and sisters of the girl all lose more than the average amount of blood every month. This case, as was stated before, is instructive from the fact that it teaches the necessity of taking into account all the facts, even those which apparently have but little bearing on it, before deciding upon the gravity of a uterine hæmorrhage, and inferring that there is some serious local trouble. The family physician, who is familiar with the constitution and hereditary traits of the patient, is less apt to err than a stranger (even though a gynæcologist), who sees her for the first time.

As regards the treatment, I can only add that it should be largely expectant, since the hæmorrhage tends to cease spontaneously. Absolute rest in the recumbent posture, with the avoidance of all disturbing influences, is generally sufficient. The patient ought not to be allowed to get out of bed for the purpose of emptying the bladder or bowel; neither should be permitted to become distended, since this tends to increase the hæmorrhage. On the other hand, violent purgation is equally to be avoided, since it augments the pelvic congestion.

As regards drugs, the fluid extract of *Hydrastis canadensis* has been highly recommended in uterine hæmorrhage, but it did not seem to act so well in this case as ergot. I have not met with such good results from the use of aromatic sulphuric acid as others. Since the hæmorrhage in these cases is an expression of the general pelvic congestion, it is a question if by endeavoring to promote uterine contractions, and hence local anæmia, we do increase the existing hyperæmia in the pelvic vessels. The conditions in the case of a virgin and in that of a multiparous uterus are manifestly different.

As regards the application of cold to the abdomen, as recommended by German writers, it is to be noted that this agent should not be employed indiscriminately. I should not have ventured to use it in this instance if I had not been sure that the hæmorrhage was not the true menstrual flow. Even then the ice-bag was left *in situ* for only half an hour at a time. Its use in such a young patient during the period might be productive of harm, by modifying unnaturally the normal hyperæmic condition of the pelvic organs, just as sometimes occurs in consequence of a cold bath at that time.

Vaginal injections are always extremely distasteful to a young girl, and, in consequence of the anatomical condition of the parts, they can not be given thoroughly. If employed at all, they should be administered slowly, and should be non irritating. The amount of water and the force of the stream must necessarily be smaller than would be used in the case of a multipara. A simple astringent, such as alum, is preferable. It is a question if they accomplished much good in the case described; they were, at least, not productive of harm.

To summarize: Metrorrhagia at the time of puberty is not necessarily pathological, and rarely calls for local treatment. If dysmenorrhœa is absent, if no general cause can be discovered, and the patient is not profoundly affected by the loss of blood, the chances are that the condition is temporary, and that it will cease when she is placed under proper hygienic conditions, which conditions can only be determined by experiment. Treatment should be mainly expectant, while vaginal examinations are rarely necessary.

Long Branch, *July 30, 1887.*

SENSORY AFFECTIONS OF THE THROAT.*

By FREDERICK I. KNIGHT, M. D.,

BOSTON, MASS.

Of the neuroses of sensation in the throat, my experience has been chiefly with hyperæsthesia and paræsthesia.

Hyperæsthesia of the fauces is still unpleasantly familiar to all laryngologists, not so often from complaint on the part of our patients as from the annoyance and hindrance in the use of the laryngeal mirror and other exploration of the throat, though in marked cases the reflex movement of gagging is excited so easily by slight causes as to be of great annoyance to the patient, oftentimes such irritability existing that cleansing the teeth, opening the mouth, and even disagreeable sights are attended with reflex gagging.

In this form of trouble it has always seemed to me that practitioners did not consider the general condition of the patient sufficiently. Although we find the fauces, especially the soft palate, congested and relaxed, and probably the same condition of the upper part of the larynx, the worst of these cases are alcoholic or in the subjects of digestive derangement, the morbid disturbance showing itself not only in the mucous membrane of the throat, but also in that of the eyes and other parts. This form of hyperæsthesia will often yield to a withdrawal of alcohol and regulation of the diet without local measures, though astringents are often of great additional service.

For immediate help in conducing to toleration of the throat-mirror the local applications are uncertain, even that of cocaine, which is the best, often failing to abolish the reflex.

There is one class of patients, generally markedly neurotic, in whom a hyperæsthetic condition of the pharynx causes very distressing dysphagia. On examination, the pharyngeal mucous membrane is found to be rough, granular, from slight glandular hypertrophy. In these cases, while the local application of nitrate of silver may relieve, lasting benefit must be sought in tonics and general hygiene.

Of cases of paræsthesia I have had the usual number, cases in which the sensations complained of by the patient are out of all proportion to any apparent cause. These have been sensations of fullness, of pressure, pricking, burning, the globus hystericus, pain on speaking (causing phonophobia), or of some foreign body in the throat, such as a seed, a bone, a hair, etc. They have varied very much in intensity at different times, and have sometimes at intervals been wholly absent. They have been developed or increased by mental or physical fatigue.

In regard to the cause of this perversion of sensation, it may be regarded that in most cases an impairment of the general nervous system is present, though the exciting cause may be some local disease of the throat or a foreign body. I have seen a case within a week of a strong man, with only slight local disease in the naso-pharynx, who suffers, especially when fatigued, as if from a hot iron in the region of the soft palate. He is subject also to a peculiar pulling sensation in the hepatic region, so strong that it prevents his lying on that side. Otherwise he is a robust man, weighing over two hundred pounds. The abnormal sensations often remain a long time after the removal of the apparent exciting disease or foreign body. I had a patient return to me a few days ago, complaining of the same old orange-seed which I had failed to find six years and a half ago.

Few explanations of the mechanism of these strange sensations have been offered, among which the ingenious one presented by Dr. Andrew H. Smith, at the meeting of this association in 1881, deserves special mention. He called attention to the fact that two sets of muscles attached to the hyoid bone acted antagonistically to one another, and that these two sets of muscles received their motor-nerve supply from entirely different sources; so that in case of slight paresis of one set, the other being left without sufficient antagonism, the hyoid bone and the structures connected with it would be approximated to the vertebral column, and a sense of something pressing backward would be felt.

I have not met, or certainly do not remember meeting, with paræsthesia of the larynx as the earliest symptom of pulmonary phthisis, as held by Jurasz and Gottstein.

My experience has led me to believe the prognosis in most cases of paræsthesia of the throat to be good, if treatment is faithfully carried out, though the course may be tedious.

The treatment of all neuroses of sensation, besides any local repair which may be possible, must be aimed to correcting the constitutional vice, whatever that may be.

It is safe to say that failure in this often comes from following routine instead of seeking the special requirement of each case. For instance, the conditions of anæmia, neurasthenia, or lithæmia, may either of them be the underlying cause of a patient's trouble, and would require very different remedies, the last condition being often seriously aggravated by tonics and the routine treatment given the former.

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* The opening of a discussion before the American Laryngological Association at its ninth annual congress.

Correspondence.

LETTER FROM PARIS.

The Mineral Springs of France and those of America.—Lead Lining for Water-pipes.—The Treatment of Phtheiriasis Pubis.—The Hydatid Thrill.—The Treatment of Hydrocele.—A French Physician called to Moscow.—The Paris Chair of Physiology.—The Grades of Medical Practitioners in France.

Paris, *August 1, 1887.*

Passing a part of my summer vacation at Luchon, a noted sulphurous water station in the Pyrenees, I feel disposed to call attention again to the very considerable therapeutical advantages of French mineral-water resorts, and to the fact that we also certainly have in America just as good mineral waters. What we lack is the thorough medical and governmental supervision that exists here, and that gives the general public an assurance that the best care will be taken of their health. It may well be that it is overdone in Europe, and that there are too many doctors at the springs who take advantage of the public, but the fact remains that at all mineral springs in France that have been examined by government chemical experts, and that have been declared to be of "public utility," there exists a number of good, capable physicians to direct patients how to make the best use of the waters according to their complaints; and it seems to me that it is just this last body we need. We have the mineral waters, but we require correct analyses of them and a corps of competent physicians who will reside, at least for the season, at the springs, and devote themselves to hydrology only. It can not be urged that we have not enough physicians, in a country that has the credit of having more to its population than any other, so that all we need to prevent our people from coming out to Vichy, Carlsbad, Luchon, and such like places, is for Congress to pass such a law as the French one, which forbids the use of any mineral spring until it has been examined and passed upon first by the government chemist, and then by the Academy of Medicine. This fixes the value of the spring, and determines the nature of its constituents by proper authority. That physicians, on this guarantee, should fix upon the place as a residence follows naturally enough; they study the therapeutical value of the springs, and as a rule devote themselves to practice at them only, so that their professional brothers practicing in other places do not hesitate to confide their patients to them for the mineral-water treatment. I feel convinced that there is a great future for American mineral waters and an honorable as well as interesting specialty to be formed of hydrological scientific men, if it is properly organized; so that I could continue to develop this subject by describing the methods used at the different baths we visit yearly, if space permitted it. One of the most original and effective uses of mineral waters that I have seen is what is called *humage* at Luchon. All the strong sulphur waters here give off hot vapors, which are thought to contain the elements of the water that should be used in inhalation. This is arranged as follows: The different springs are conducted into great marble tanks placed beneath two large rooms in the bathing establishment, and the sulphur vapor is conducted by a large converging marble tube to stands in the room, and the force of the vapor is graduated into one, one half, and one quarter, by the opening and closing of the tube by appropriate graduating apparatus, that not only controls the force, but also the heat given by a system of obturators at the lower and upper ends of the shaft. The superior part of the marble pipe is turned like the mouth of a hydrant, and a mouth-piece is attached to this like a gas-inhaler. The physician orders, for instance, a half inhalation of the vapors of a certain spring of which he knows the strength and temperature. The patient is placed before the tube for a certain time (ten minutes at first), breathing only the vapor. From the first, there is nothing unpleasant; a sensation of soft warmth is felt, which penetrates the lungs, making inspiration ample and easy—so much so that most patients wish to go on longer than the doctor advises. It does not cause any coughing, and expectoration becomes at once loose and free in most cases. It is given once or twice a day in chronic laryngitis, bronchitis, coryza, asthma, and even phthisis, with excellent results. I am indebted to Dr. de Laverrenne, one of the principal physicians of Bagnères de Luchon, for reports of cases that show the merits of this form of medication with mineral waters, and certainly the results are striking. It is requisite, of course, that the mineral springs used for this form of treatment should be hot enough to give off vapors, or that the water should be heated and dashed against the walls of the shafts leading to the supply-tubes.

Speaking of water reminds me of the fact that the Director of Public Works in Paris was lately compelled to line a portion of the aqueduct bringing the water of the river Vanne into the city, owing to an infiltration of matters from the parts around the tube. He used sheet-lead for the purpose, and Professor Gautier feared that this would not be entirely innoxious, so he ordered an analysis of the water to be made after a month's use of the lead lining. Fifty litres of the water were taken before it had passed the portion lined with lead, and the same quantity after it had passed that point. The two portions were carefully submitted to the same tests. They were filtered, acidulated with acetic acid, and saturated with sulphureted hydrogen, but not the slightest trace of brown coloration or deposit appeared to show any lead. After a long series of other careful experiments by our best chemists, with counter-trials, it was concluded that the quality of the water was not modified or rendered toxic by the lead lining in the pipes.

The treatment of phtheiriasis pubis by the usual blue ointment has so many inconveniences, with its disagreeable application and its often toxic effects, that I will speak of the use made of the well-known antiparasitic action of salicylic acid. The formula given is:

Salicylic acid	2 to 3 parts;
Toilet vinegar......	25 "
Alcohol (80°)........	75 "

The parts are to be rubbed with a piece of flannel wet with the mixture. In most cases a single application will be enough to destroy the pediculi.

Dr. Tillaux, surgeon to the Hôtel Dieu, calls attention to the fact that what is called here *frémissement hydatique*, a trembling sound or feeling got in the examination of hydatid cysts, is a reliable diagnostic sign, quite enough of itself to establish the diagnosis. He states that no one has given an explanation of this sign, and he finds that it comes from the fact that the pocket giving the *frémissement* does not contain any liquid. The disposition of the mother-sac and the vesicles is such that, when there are fluid contents, the vesicles swim in it and give no sound, but, when the sac contains no liquid, the vesicles are piled one upon the other and produce this characteristic sign.

Professor (*agrégé*) Reclus, in a recent clinical lecture, gave the treatment of hydrocele used here, which can be stated at once in his conclusions. 1. The old plan of puncture followed by an injection of tincture of iodine is the usual and best operation, and it should be retained for use by most physicians. 2. Antiseptic incision of the scrotum (Volkmann's operation) should be used only in certain special cases, such as those of congenital and multilocular hydroceles, where there is also a complication of foreign bodies, and when the liquid has returned again after the first operation, or when the tunica vaginalis is thickened and hardened. But Volkmann's operation is one that requires special surgical skill, and it should not be attempted by every one. A modification of the regular treatment that must be mentioned is that now used by M. Périer, surgeon to the Lariboisière Hospital here. He removes the liquid in the usual way with a trocar, and, leaving the cannula in place, proceeds to inject from 30 to 50 grammes of a one-per-cent solution of cocaine. He leaves this in contact with the serous membrane for about five minutes, being careful to knead the scrotum with the fingers so that the solution shall reach all parts of the vaginal sac. It is then drawn off and followed by the usual injection of tincture of iodine. The result is an almost complete anæsthesia of the parts, a consequent suppression of the usual severe pain, and as satisfactory a cure as usual.

Quite a compliment is paid to the Paris faculty by the fact that Baron de Mohrenheim has just asked Professor Potain to go to Moscow to attend M. Katkoff, who is lying so ill there. M. Potain left Paris last week. The Russians must be rich to call a doctor such a distance, almost as far as from New York to San Francisco, and the expense of such a physician's visit can not be much less than $10,000.

M. Charles Richet has just been presented *en première ligne* as a candidate for the chair of physiology in Paris, in place of the late Professor Béclard. This is equivalent to his election. M. Richet, who will be the youngest professor, being not much over forty, is a physiologist of great merit, belonging to a talented family, his father being one of the present professors of surgery at the faculty and surgeon to the Hôtel Dieu.

From official statistics it seems that there are 36,512 persons in France holding diplomas that permit them to exercise some branch of the healing art. Of this number, 2,188 physicians, 1,523 midwives, 762 druggists, and 548 herbalists belong to the department of the Seine—*i. e.*, Paris and its environs. The 2,000 odd Paris physicians are divided into two classes, as they are throughout France—namely, those of the first class, or *docteurs en médecine*, and those of the second class, or *officiers de santé*. Both classes practice medicine, about the only difference being that the second-class physicians can not perform any important operation without the aid of a *docteur*. They are known as *médecins*, and they pass a very much easier examination than the *docteurs*. Their diploma only allows of practice in one department, and does not apply to all France, as that of the *docteurs* does. This is the degree usually given to foreign physicians who practice in this country.

Cholera in Italy.—Since cholera first appeared in Calabria, early in July, there has been a slow but steady extension of the disease. Rocella was at first the principal seat of the outbreak, but it soon appeared that the cholera which in an early part of the year had existed on the eastern coast of Sicily had broken out again, Catania having for some time past been implicated. Gradually the epidemic has extended over most parts of Sicily, the provinces of Calabria, Caltanicetta, Syracuse, Messina, Gergenti, and Palermo being affected. On the mainland a number of additional towns on the Calabrian coast, such as Palmi, Reggio, and Melita, have also been attacked. Then came news as to the extension of the disease to Malta, and to Resina in the bay of Naples. Since Malta was first attacked there has been a daily record of fresh cases, the largest number of attacks having taken place on the 9th inst., when as many as fourteen were returned. Hitherto the troops have remained free from the disease, which is limited to the poorest classes of the population. The last report of cases in Sicily was on the 7th, where fresh cases are stated to have occurred at Messina and Palermo. —*Lancet.*

The European Faculties.—In a summary of recent Continental university intelligence, the "Lancet" states that Dr. Brühl has been appointed *Privat-Docent* in gynæcology at Berne; that Dr. T. Rumpf and Dr. E. Ungar, *Privat-Docenten* at Bonn, have been made extraordinary professors; that Dr. Rokitansky, professor of internal pathology at Innspruck, has been appointed dean; that at Lille the teaching of experimental pathology has been added to the duties of the chair of internal pathology, Dr. Leroy being appointed *agrégé*; that Dr. Don Fausto Garagozza has been appointed professor of analytical chemistry at Madrid; and that Professor Gasser, of Berne, has been made professor of anatomy at Marburg.

Sudden Death of Dr. William A. Byrd.—Dr. William A. Byrd, of Quincy, Ill., died on August 14, 1887, at Slater, Mo., to which place he had gone for a visit to his father. He is reported to have been attacked with sunstroke on the 13th, and survived only about eighteen hours. He was forty-four years of age, and one of the most active and well-known surgeons in that section of the State.—*Journal of the Am. Med. Assoc*

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IMMUNITY AND PHAGOCYTOSIS.

Hardly any theory has been propounded in bacteriology more attractive than that suggested by Metschnikoff to account for immunity against disease. It harmonized so well with known facts, and could be so easily adapted to varying conditions, while at the same time it was apparently so well substantiated by experimental data, that it early obtained a wide acceptance. Some recent investigations, however, would seem to throw considerable doubt upon Metschnikoff's interpretation of the action of the white blood-corpuscles in the production of immunity. A recent number of the "Fortschritte der Medicin" contains an article on "Immunity and Phagocytosis," by J. von Christmas-Dircknick-Holmfeld, that presents some very interesting observations upon this subject.

The term phagocytosis was first employed by Metschnikoff some years ago. He meant by it the process by which, as he maintained, the leucocytes of certain animals took up and destroyed bacteria that were making their way into the organism; and immunity against the infectious diseases he thought should bear a constant relation to this capacity of the white blood-cells, for each organism would be proof against all parasitic diseases the germs of which the "phagocytes," or leucocytes, could destroy, while it would be susceptible to those diseases the germs of which possessed such chemical or physiological properties as enabled them to resist the action of the leucocytes. Metschnikoff maintained that immunity did not depend upon any peculiarity of the blood in a humoro-pathological sense, but upon a peculiarity of the living cells in a cellulo-pathological sense—a peculiarity which consisted especially in the capacity of the phagocytes to take up foreign substances which they yet might not be able to assimilate. The fact that animals might be insusceptible to inoculations with small quantities of virus, but died after the introduction of larger quantities, might be explained on the ground that this immunity depended upon the power of the leucocytes to take up and destroy the micro-organisms. But the immunity thus conferred must be confined within certain limits, since the number of bacteria that could be destroyed by the leucocytes at one time was limited. The relation of the organisms to the germs might be described, then, as a contest between the leucocytes and the pathogenetic germs. If the former were able to destroy the bacteria, they remained the victors, but, if they were not able to do this, the germs multiplied in the organism, and the disease to which they belonged was produced.

There have been but few critics of this theory—so attractive is it, and so completely does it fulfill the given conditions. Baumgarten's arguments to show the weak points in it were afterward refuted by Metschnikoff. Ribbert and Wyssokowitsch have also made the same attempt, without touching upon the experiments of the originator. Ribbert injected the spores of *Aspergillus fumigatus* and *Aspergillus flavescens* into a vein of a rabbit's ear, and found that a wall composed of leucocytes quickly formed around the spores in the various organs, especially the liver, the spleen, and the lungs. By this in part the spores were prevented from germinating, and in part the offshoots from them were restricted in their growth; and Ribbert concluded that the leucocytes acted injuriously upon the germs by preventing the access of oxygen. Wyssokowitsch found, in his injections of non-pathogenetic organisms into the blood-vessels, that some of the bacteria were taken up by the endothelial cells of the capillaries, but he could see no marked tendency of the white blood-corpuscles to take up the micro-organisms; and he concluded from this that the phagocytes, in any event, played only a subordinate part in rendering the bacteria harmless.

Von Christmas-Dircknick-Holmfeld says that, from his experiments, it seems probable that Metschnikoff's theory as to the action of the leucocytes is not quite correct, at least in the sense in which that author intended it. The phagocytes probably play a certain part in the destruction of germs in insusceptible organisms, but this part is of much less moment than others to which Metschnikoff attached quite insufficient weight. By his experiments he attempts to answer two questions: 1. Do the local lesions produced by inoculations of pathogenetic micro-organisms in different species of animals vary according as the animals are more or less susceptible to the disease? 2. Do the leucocytes in reality play the part ascribed to them by Metschnikoff? He says that the organism used in these experiments was the anthrax bacillus, because of its well-known characteristics, its peculiar form, and the ease with which it can be cultivated. Rabbits, mice, and white rats were the animals used for the inoculations. The special value of these species of animals consisted in their varying susceptibility to anthrax. Rabbits are very susceptible, while white rats show considerable resistance to this disease, and can be made quite proof against it. A series of experiments with this germ resulted in showing that, in these species of animals, there was a marked difference in the course of the local processes, according to the greater or lesser susceptibility to the virus introduced. In mice and rabbits, after twenty-four hours, there was slight œdema, more marked in the mice. Upon opening the point of inoculation, a drop of clear serous fluid ran out, which showed under the microscope a large number of anthrax bacilli, and no leucocytes, or next to none. There was no material subsequent change in the local lesions up to the time of death, and especially it should be noted that there was never any suppuration. In rats the result was quite different. In them there was always some pus in the secretion of the inoculation wound, and its amount bore a constant relation to the virulence of the anthrax cultivation and to the susceptibility of the animals experimented upon. Inoculations with an artificially attenuated anthrax virus, again, gave quite a different result, so far as mice and rabbits were concerned. Such inoculations were followed by a small area of suppurative inflammation at the point of inoculation; a drop of thick pus was constantly present. In full-grown rats the result was the same.

The conclusions from these experiments are, briefly, as follows: The inoculation of a virulent anthrax cultivation produces, in very susceptible animals, but slight if any local reaction, and is not attended by suppuration. The anthrax bacilli quickly find their way into the organs through the lymph- and blood-vessels; they multiply with great rapidity, and soon produce the death of the animal. In less susceptible animals, the virus acts as an inflammatory irritant, and produces a suppuration inversely proportionate in amount to the susceptibility of the animal. Insusceptible animals show very slight constitutional symptoms, as the disease seems to be localized at the point of inoculation and its immediate neighborhood. In animals which stand upon the border-line between susceptibility and insusceptibility, such as half-grown rats, the local lesions are less marked and the entrance of the bacilli is somewhat restricted, but after some time, usually eight days, the animals die of the disease. It is very evident from the results obtained in these experiments that the suppuration has no insignificant relation to the degree of susceptibility to anthrax in certain animals, and there can be no doubt that this relation is not restricted either to these animals or to this single disease, but has a very general application. It is a well-known fact that the most virulent infectious diseases destroy life without producing any very great anatomical changes, while those that either do not destroy life or do so only after very long periods of time produce quite clearly marked pathological lesions. It must also be true that the suppuration has a conservative action, in so far as the organism is concerned, in the preservation of health; and the question arises as to how this is exerted. Von Christmas-Dircknick-Holmfeld says that, judging from his experiments, it is apparently to be ascribed far more to some chemico-biological condition or influence than to the taking up of the bacteria by the leucocytes. In white rats inoculated with virulent anthrax, and in rabbits and mice inoculated with an attenuated virus, when a certain degree of insusceptibility was shown, it was unusual to find any bacilli in the white blood-corpuscles, by far the largest number being present in the liquor puris outside of the cells. As, in some cases, a complete immunity was shown, the organisms must have been destroyed in some other manner than by being taken up by the leucocytes. This fact was also shown in the following experiment: The anthrax virus used for the inoculation was derived from fresh gelatin or agar-agar cultivations, in which the micro-organism was found in the form of long homogeneous filaments that showed no trace of spore-formation. If the wound secretion was examined twenty-four hours after the inoculation of full-grown rats with such a cultivation, it was found that the long filaments had been replaced by short rods lying singly or in twos. The rods were for the most part rounded at both ends, a little shorter than usual, and often surrounded by an area highly refractive of light. If a small amount of this pus was spread out upon gelatin, after two days an abundant growth of anthrax colonies was found, and, if a mouse was inoculated with the pus, death followed in about two days. If the pus from the same rat was examined after forty-eight hours, the appearance of the bacilli was changed. The bacilli, which before had been homogeneous, had become granular, many of them clearly showed a granular disintegration, and some of them refracted light less sharply and showed a less distinct contour. If this pus was spread out upon gelatin, as a rule no growth followed, and mice inoculated with it presented no symptoms of anthrax. Sometimes the bacilli lived more than forty-eight hours, but death almost invariably occurred before the end of the third day. In rats which had been rendered insusceptible to anthrax by repeated inoculations, the destruction of the bacilli often took place within twenty-four hours.

The death of the bacilli here was evidently not brought about by the process of phagocytosis. It might be supposed that the bacilli, which are found in such numbers free in the pus, might have been at first taken up by the leucocytes, and thus destroyed, and only have become free after the death of the cells and their consequent destruction. To eliminate this possibility, a small amount of pus was drawn up into a capillary tube from the wound, twenty-four hours after inoculation of an immense rat with anthrax virus. The bacilli in this pus were active and virulent, as was shown by the inoculation of a mouse. After the collection of the pus, the tube was closed at both ends and placed in a thermostat at 37° C. From this tube inoculations were made daily upon gelatin, and a mouse was also inoculated each day. In the course of one, two, or three days, the bacilli were destroyed outside of the living body in such pus, while the organisms were not taken up by the leucocytes. After this time, transfers upon gelatin and inoculations of mice fail. The bacilli live for indefinite periods of time when introduced into such tubes with nutrient media. From these experiments, says von Christmas-Dircknick-Holmfeld, it is evident that the pus found in rats after inoculations with anthrax exerts a destructive action on the anthrax bacilli, without their being taken up by the white blood-corpuscles.

MINOR PARAGRAPHS.

SURGEON-GENERAL HAMILTON'S "COLLEGE ADDRESSES."

Under the general title of "College Addresses," the Surgeon-General of the Marine-Hospital Service, Dr. John B. Hamilton, who, in addition to the performance of his duties under the Government, manages to find time to practice and teach surgery and to attend to the arduous tasks necessarily falling upon him as Secretary-General of the Ninth International Medical Congress—in all of which capacities his work is known to be excellent—has lately issued a pamphlet containing his response to the toast of "the medical faculty," at a dinner of the alumni of Georgetown College; an introductory lecture entitled "An Epitome of the History of Medicine" (an exceedingly satisfactory sketch, we may remark); and an address to the graduating class, in which, under the title of "The Medical Variations," he gives a very instructive account of some of the more prominent medical doctrines, heresies, and delusions that have influenced the profession or the public from time to time.

THE RÔLE OF THE THYREOID GLAND.

In a recent issue of the "Centralblatt für klinische Medicin," Dr. O. Langendorff gives an interesting abstract of an account published in the "Berliner klinische Wochenschrift," by J. R. Ewald, of certain observations upon the functions of the thyreoid gland in dogs, agreeing in the main with Schiff's. The dog has two thyreoid glands. When one of them is removed, no disturbance takes place, but if the second one also is removed, even after a long interval, death follows, preceded by peculiar symptoms, prominent among which are convulsive seizures involving chiefly the temporal, scapular, and lingual muscles, together with a remarkable apathy, and finally difficulty of swallowing, while a highly repulsive odor proceeds from the mouth. Very striking results followed subcutaneous injections of a watery extract of the thyreoid practiced on healthy dogs—the occurrence of an apathy so decided as to resemble narcotism or hypnosis, so that the animals showed no resistance when placed in the most uncomfortable positions. In other animals the phenomenon was not observed, even after intravenous injections. It is stated that injections of the extracts of other organs are wholly without effect. Like Schiff, Ewald thinks that the thyreoid gland contains a substance of great importance to the central nervous system, either produced within it or only collected and metamorphosed there.

THE DANGERS OF THE PUBLIC BATHS.

A coroner's inquest was lately held in the case of a lad who, according to the accounts published, came to his death from some erysipeloid disease thought to have been contracted in a public bath on the East River. It does not appear whether the infection was imputed to a contamination of the water of the bath by some person making use of it or to a more than ordinary prevalence of offal in the river. No doubt there are real dangers of infection of one kind and another connected with bathing in the waters that immediately surround Manhattan Island, but it is somewhat startling to learn that one of the medical witnesses in this case is reported to have testified that he "had frequent cases of this sort."

AN INCIDENT AT AN ANTIVIVISECTION MEETING.

The Paris correspondent of the "New York Times" tells of an amusing occurrence at a recent meeting of an antivivisection society held in that city. One of the speakers, a woman, having inveighed particularly against medical students, was asked by a student, who happened to be present, why she wore a bird in her hat—"a poor little robin" that "had been slaughtered simply to supply a vain woman with a foolish ornament." The account goes on to say that the lady was cut short in her eloquence, and could only stammer forth the poor protest that she had not done the bloody deed herself.

THE USE OF A BONE PEG IN AN OPERATION FOR PSEUDARTHROSIS.

At a recent meeting of the Paris *Société de chirurgie*, a report of which appears in the "Deutsche Medizinal-Zeitung," M. Richelot related the case of an hysterical girl, sixteen years old, with a congenital atrophy of the face, for which resection of a portion of the lower jaw was performed. The fragments were united with silver wire, but the patient was restless, and the union which took place was by fibrous tissue. Dr. Routier subsequently drilled a hole through the fragments, excised the callus, and pegged the two parts of the bone together with a portion of the tibia of a calf, which had been steeped for twenty-four hours in a solution of 1 part of corrosive sublimate in a mixture of 900 parts of distilled water and 100 of alcohol. Bony union followed, with only slight asymmetry, and the patient could eat better than before. No disturbances of the dental nerves were observed.

"AIR-ETHER."

It appears by a notice inserted in the Berlin journals, emanating from the president of the Police Department of that capital, that a certain druggist, whose name and place of business are given, has been selling a nostrum which he calls *Luft-Aether*, intended as a remedy for headaches, at 50 Pfennig a bottle. An official analysis has shown that the liquid is a solution of acetic ether and oil of peppermint in alcoholic ammonia, and it is stated for the benefit of the people of Berlin that a bottleful of it is not worth more than 5 Pfennig.

ARTIFICIAL CRIPPLES.

The New York "Evening Post" quotes from the Paris correspondence of the London "Daily Telegraph" a shocking account of an abominable industry in which puny children, bought of their parents or guardians, are deliberately converted into *culs-de-jatte* (*i. e.*, cripples as to their lower limbs), and then compelled to beg in the streets and turn their gains over to the monsters who assume to own them. The process of crippling, as described, is not unlike that by which the Chinese are popularly supposed to deform the feet of their women. It is said that most of the victims are brought into France from Spain. The matter has been brought to the notice of the prefects of the southwestern departments officially, and it is to be hoped that the infamous trade will be suppressed.

MASSAGE UNDER THE AUSPICES OF A CORPORATION.

The "Deutsche Medizinal-Zeitung" remarks that its prophecy, made several years ago, that medicine was likely to become a matter of joint-stock companies, is approaching its fulfillment, as is shown by the formation of a corporation having a capital of 200,000 Marks for the purpose of conducting an institute for mechanical curative gymnastics—in Kissingen in summer, and in Würzburg in winter.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 23, 1887:

DISEASES.	Week ending Aug. 16.		Week ending Aug. 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	55	12	48	14
Scarlet fever	29	6	28	3
Cerebro-spinal meningitis	5	5	2	2
Measles	18	3	9	0
Diphtheria	82	25	72	21

The American Academy of Medicine will meet in Washington on Saturday, September 3d.

The Health of New York City.—During the four weeks ending Tuesday, August 23d, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Fourth Division of the Health Department: Typhoid fever, 175 cases and 45 deaths; scarlet fever, 118 cases and 21 deaths; cerebro-spinal meningitis, 14 cases and 14 deaths; measles, 80 cases and 9 deaths; diphtheria, 324 cases and 98 deaths; small-pox, 9 cases and 2 deaths.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 14 to August 20, 1887:*

Baxter, J. H., Colonel and Chief Medical Purveyor. Ordered to proceed from Washington, D. C., to New York city, on public business, and, on completion thereof, to return to this city Par. 5, S. O. 187, A. G. O., August 13, 1887.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Purveyor. Granted leave of absence for one month. Par. 10, S. O. 191, A. G. O., August 18, 1887.

Wolverton, W. D., Major and Surgeon, Washington Barracks, D. C. Granted leave of absence for twenty days. Par. 3, S. O. 171, Division of the Atlantic, August 16, 1887.

Byrne, Charles B., Captain and Assistant Surgeon, Washington Barracks, D. C. Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O. 171, Division of the Atlantic, August 16, 1887.

Wilson, George F., Captain and Assistant Surgeon. Granted leave of absence for fifteen days. S. O. 78, Department of Dakota, August 8, 1887.

Dietz, William D., First Lieutenant and Assistant Surgeon. Granted leave of absence for two months, with permission to apply for an extension of one month. Par. 7, S. O. 189, Headquarters of the Army, A. G. O., August 16, 1887.

McCaw, W. D., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Riley, Kansas, and ordered to his proper station, Fort Leavenworth, Kansas. Par. 3, S. O. 84, Department of the Missouri, August 15, 1887.

Johnson, Henry, Captain and Medical Storekeeper. Ordered, in addition to his present duties, to take charge of the office and perform the duties of acting assistant medical purveyor in New York city during the temporary absence on leave of Lieutenant-Colonel Joseph C. Baily, Assistant Medical Purveyor. Par. 11, S. O. 191, A. G. O., August 18, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 20, 1887:*

Robinson, S., Medical Inspector. Placed on retired list.

Gardner, J. E., Passed Assistant Surgeon. Detached from Naval Hospital, Norfolk, Va., and ordered to the Fish Commission steamer Albatross.

Martin, William, Assistant Surgeon. Ordered to Naval Hospital, Norfolk, Va.

Van Reypen, W. K., Surgeon. Appointed Medical Inspector from August 16, 1887.

Simons, M. H., Passed Assistant Surgeon. Appointed Surgeon from August 16, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending August 20, 1887:*

Long, W. H., Surgeon. Leave extended six days on account of sickness. August 13, 1887.

Fessenden, C. S. D., Surgeon. Leave extended thirty days on account of sickness. August 19, 1887.

Godfrey, John, Surgeon. Granted leave of absence for thirty days. August 17, 1887.

Glennan, P. H., Passed Assistant Surgeon. Granted leave of absence for thirty days. August 18, 1887.

McIntosh, W. P., Assistant Surgeon. Granted leave of absence for twenty-five days on account of sickness. August 17, 1887.

OBITUARY NOTES.

Nathaniel A. Randolph, M. D., of Philadelphia, professor of hygiene in the University of Pennsylvania, and one of the editors and publishers of the "Medical and Surgical Reporter," of Philadelphia, was drowned while bathing at Atlantic City, N. J., on Sunday, the 21st inst. The deceased was about thirty years of age, and was considered a man of much promise.

Professor Spencer F. Baird, of Washington, who for many years had been at the head of the Smithsonian Institution, died on Friday, the 19th inst., at Wood's Holl, Mass., whither he had gone on business connected with the United States Fish Commission. The deceased pursued a course of medical study in his youth, but the work of nearly his entire life was in the field of natural history. His contributions to the advancement of that branch of science were conspicuous.

Sylvester Teats, M. D.—The death of this well-known member of the New York profession is announced as having taken place on Friday, the 19th inst. The deceased was in the sixty-second year of his age.

Letters to the Editor.

THE PHILADELPHIA SANITARIUM AT RED BANK, N. J.

Philadelphia, *August 8, 1887.*

To the Editor of the New York Medical Journal:

Sir: July 26, 1887, was called "Physicians' Day" at the Philadelphia Sanitarium, situated at Red Bank, N. J., and several members of the profession availed themselves of the opportunity to inspect the new purchase of the association.

Two steamers, Relief and Riverside, ply between Philadelphia and Red Bank, one leaving each wharf every hour. A great number were waiting for the 11 o'clock boat: mothers with infants in their arms, and little ones of two and three years of age clinging to their skirts; groups of children were alone, the oldest, perhaps not more than ten years old, having charge of three or four who were younger and smaller. It was a noisy, eager crowd, and all seemed to enjoy the ride of fourteen miles down the river. When they disembarked they were counted, and we learned they numbered three hundred and fifty.

As we walked from the landing to the grounds, situated directly on the river-bank, we saw a long line of women ranged near the picket-fence along the river-front. At first we could not tell why they were in this position, but soon discovered that they were waiting for soup. After watching several of them file past the two windows of the soup-kitchen, each mother coming away with nearly a pint of soup and three crackers for herself, and soup and two crackers for her child, we entered the building to investigate the quantity and quality of the soup. One hundred and sixty gallons had been made that day, and we learned afterward that nearly all of it was used; upon tasting it we found it good and nutritious.

Only those who arrive before 12 o'clock, noon, are supplied with soup; in the afternoon each child has a cup of milk, each nursing mother a cup of tea. To those having the care of children who depend upon the "nursing-bottle," fresh milk is given out freely, without regard to regular hours.

We next wandered over the well-shaded grounds to the large brick building, the Sanitarium proper, situated on the highest point of the estate, overlooking the river, and well adapted for receiving permanent cases. On the first floor there is one large ward, with windows on three sides of it, opening into a wide piazza which surrounds the building; the wards on the two other floors are smaller, but are cheerful and airy, having high ceilings and large windows. There are eighteen rooms, some of them being allotted to the matron and nurses, and one used as a bath-room, which is very complete in its arrangements. At the time of our visit there were no cases in the wards, but there had been a short time before.

Under the trees, in front of the buildings, were the women and children who had gone down on the boat with us, as well as many who had arrived earlier, there being about 1,200 in all.

Babies were swinging in hammocks or lying on the grass, the older children were playing around, watched by weary mothers or caretakers, all seeming to enjoy themselves as they gained new life and strength from the river breeze.

The Sanitarium was opened at Red Bank, June 2, 1887. Up to July 26th there had been thirty-eight working days, during which time 36,963 children and caretakers were admitted to the grounds, making a daily average of 972. The highest number for one day was 2,098, the lowest for one day, 245. The association commenced its work in 1877 at Point Airy, Windmill Island, in a small way, which seemed ample for the first few years, but, as time passed on, greater numbers of our city poor availed themselves of the opportunity to give their little ones a breath of fresh air, and the accommodations became too limited; then, too, the tide encroached upon the island, and the drainage was imperfect; so about one year ago the present location was decided upon, the property purchased, and early in September the work of removal begun. During the ten years' residence at Point Airy, the greatest number of admissions was during the summer of 1885, 53,968 children and caretakers having been admitted to the grounds.

During the summer of 1886 there were 52,866 admissions, but as the number of working days was less than that of any previous season this slight decrease in numbers is not surprising. With enlarged grounds and accommodations which are better in every way, we may reasonably expect a greatly increased number of admissions at the present location.

Mary Willits, M. D.

AN OLD DISLOCATION OF THE ELBOW.

97 Broad Street, Lynn, Mass., *August 15, 1887.*

To the Editor of the New York Medical Journal:

Sir: There came to the out-patient department of the Lynn Hospital, on the 9th inst., a woman giving the history of a fall, and complaining of severe pain in the wrist. Upon rotating the forearm, before removing the clothing, I discovered an unusual deformity of the elbow joint; removing the clothing and examining further, I found a complete outward dislocation of the radius and ulna of long standing. She met with an accident some twenty years ago, which caused an incomplete dislocation outward that was never reduced; a subsequent injury to the same part completed it. The woman has the movements of the arm for all practical purposes, the bones being held only by the soft parts. The olecranon and the head of the radius, when the arm is semiflexed, lie on the outer side of the humerus, at the junction of the lower and middle thirds, while the lower extremity of the humerus will rest in the hollow of one's hand.

Hamilton speaks of so few cases being reported, and of the condition being one of such rarity, that I have thought perhaps your readers would be interested to learn of this one.

W. B. Little, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(Continued from page 190.)

Sensory Affections of the Throat.—A discussion of this subject was opened by Dr. Frederick I. Knight, of Boston (see page 241).

Dr. J. N. Mackenzie, of Baltimore: This is a very important subject, and I hope it will be thoroughly discussed. I fully agree with Dr. Knight in the estimate he has placed upon sensory neuroses of the throat, and in his insisting on constitutional treatment. Among the drugs that I have used, arsenic has been especially serviceable in controlling the excitability, which in the vast majority of cases is a reflex phenomenon. I have also occasionally found the constant current of electricity of service; it is useful likewise in hyperæsthetic conditions connected with chronic nasal inflammation, with sudden stoppage of one or both nostrils—a condition generally supposed to be due to gravitation of the blood to the more dependent portion. This explanation of the phenomenon has always seemed to me to be absurd. I believe it to be merely a vaso-motor phenomenon. To control it, I have used zinc, arsenic, and electricity, applying the latter carefully with one electrode over the nape of the neck and the other indifferently on the cheek, on the ala of the nose, or within the nostril. I think that marked relief has resulted from that treatment in several cases.

Dr. C. E. Sajous, of Philadelphia: I have seen two or three cases of sensory affections of the throat. In one case the patient had follicular pharyngitis. The follicles had not been destroyed, and the parts had apparently been restored to their natural condition, but the patient continued to suffer from a sharp, boring pain over the thyreoid cartilage. I noticed that the pain usually occurred during cold, damp weather. It was probably of rheumatic origin, but this supposition was not verified by treatment. The patient was accustomed to bathe in cold water every morning, winter and summer. He showed no mental peculiarity.

Dr. W. C. Glasgow, of St. Louis: The neuralgias mentioned by Dr. Knight are considered in the malarious regions of the United States to be signs of malarial affection. I have also seen these sensitive conditions of the throat in connection with the gouty diathesis and with the condition called lithiasis. The pain is sometimes referred to a few follicles or to a single one. The follicles may be so concealed that it is difficult to find them. They are sometimes behind the palate or the tonsil, sometimes at the junction of those structures. The reduction of inflammation in them is followed by subsidence of the neuralgia. A common cause of such neuralgia is rheumatism, and exacerbations occur at night. These affections are easily corrected if we ascertain the cause. Certain patients date the sensation from the swallowing of some foreign substance. One of my patients had swallowed a watermelon-seed about two years before, and had ever afterward believed that it was still in his throat. I found the peculiar sensation to be due to a hidden inflamed follicle near the pillar of the palate; when this was reduced, the disagreeable sensation disappeared. A local cause for the trouble may generally be found, although in some cases it seems to be the result of a constitutional condition, such as malarial poisoning, gout, rheumatism, or lithæmia.

Dr. S. H. Chapman, of New Haven: I have very little to say in addition to the statements contained in my paper, but it seems to me that the discussion has shown a conflict either of terms or of the results of observation. We have heard a good deal about diseases of the mucous membrane and of the nerves of the throat, but the fact seems to have been overlooked almost entirely that there may be idiopathic diseases of the pharynx and larynx. On examining other parts of the body which are the seat of pain, we desire to make a differential diagnosis between affections of the nerves and those of the muscles; and, although difficult, it is always possible to do so. The region which constitutes my field of practice is very malarious, and we often see the severer forms of malarial disease manifest themselves in great anæmia, chronic infiltration of muscular tissues, and splenic affections. The pain in these cases we conclude to be due to intra-muscular pressure on the nerves of the parts affected, and not to a diseased condition of those nerves. Is it not, therefore, quite fair to consider the pain in the pharynx and larynx present in the majority of such cases to be also due to an affection of the muscles rather than of the nerves of these parts? Two arguments particularly favor this view—namely, the irresponsiveness of the nerves to the electrical current, and the sudden entire cessation of the pain under constitutional treatment.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 19, 1887.

The President, Dr. A. Jacobi, in the Chair.

The subject of the management of empyema, medical and surgical, having been presented by the Section in Theory and Practice of Medicine, the discussion was opened by the reading of a number of papers.

Spontaneous Absorption in the Empyema of Children; the Relative Advantages of Aspiration and Early Incision in Children.—Dr. L. Emmett Holt read a paper in which he discussed these two points. The prognosis was much better in children than in adults. This depended upon the fact that the ætiology differed at the earlier and later ages. In adults empyema occurred commonly in tuberculosis, which was not the case in children. Spontaneous absorption took place very rarely; he had been able to find but two recorded cases in which the diagnosis had been proved by the withdrawal of some of the pus. It was evident that in children the chances of recovery from empyema by nature's unaided efforts were not great. One of the conditions of cure of an abscess, wherever located, was that the walls should come in contact. This was accomplished in the chest by expansion of the lung, for the outer wall was unyielding. The more rapidly and completely the expansion took place, the quicker the recovery. The indications for treatment were to get rid of the pus by the easiest, safest, and most thorough means as early as possible. He would discuss only aspiration and incision with drainage. Puncture with the trocar and siphon drainage was an incomplete form of drainage, and could not easily be carried out in children. The advantages of aspiration were: its simplicity; with ordinary skill and clean needles, its freedom from danger; the fact that the fluid was not removed rapidly, so that gradual expansion of the compressed lung was favored; the absence of any necessity of confinement to bed or of general anæsthesia; and the cure of many cases by it alone, the fluid after one or two aspirations becoming serous and then being absorbed rapidly. But there were some very obvious objections. Not all the fluid could be removed. One sac might be emptied when another was not touched, whereas by incision and insertion of the finger the septa could be broken down. There were also certain cases in which aspiration was not applicable, as where the pus was of a septic nature, or associated with gangrene of the lung, or contained much clot.

The advantages of incision and drainage were pointed out, and then the use of general anæsthetics was considered. The author had twice known rupture to take place in a bronchus while the patient was unconscious, and death to result from suffocation. Both these cases were in adults. But local anæsthesia should be relied upon. It seemed that cocaine would suffice. The results of incision and drainage had been much improved in the recent statistics. He had collected eighty cases treated by antiseptic incision in which the duration of the discharge had been given. In five cases it was four months or over; in the remainder it averaged six weeks. In twenty-one cases, mostly cases of early operation, the duration was a month or less.

The author drew the following conclusions: 1. All methods of treatment of empyema in children yielded better results than in adults. 2. It was never justifiable to leave a case to nature. 3. Aspiration held out a reasonable prospect of success in cases of localized empyema, but a very slender one when the exudation was general. 4. If, after two aspirations at the most, pus accumulated again, showing no tendency to change to serous effusion, aspiration should not be persisted in. 5. In a case of large effusion, one aspiration might be done as a preliminary to a cutting operation. In all other cases a free incision should be made as early as possible.

Acute Empyema in Children.—Dr. Francis Huber discussed this part of the subject in a paper. The subjective symptoms seen in acute empyema were mentioned. The purulent process might go on at the same time with a pneumonia, and it was difficult to say which began first. The primary acute cases were more fatal than the subacute. Many of the former proved fatal within two weeks. The physical signs and clinical history would not warrant a positive diagnosis of acute empyema; the character of the fluid in the pleural cavity remained doubtful until some of it was withdrawn. An absolute diagnosis could be made only by an exploratory incision, which was without danger if made carefully. The treatment by medicinal means was symptomatic and palliative; no reliance could be placed on measures intended to cause absorption of the pus. Tonics, good food, and good hygiene were required, and stimulants were indicated. Surgical measures were required to get rid of the pus and stop the suppuration, and the more promptly we acted the greater would be the prospects of cure. But he would favor deferring aspiration until the acute condition had subsided, or until the twelfth day, provided life was not endangered. Aspiration could be tried first, and not too much pus should be withdrawn at one time. If, after four or five days, pus accumulated again, he would not repeat the aspiration, but would resort to incision. Cocaine, injected locally, was efficient as an anæsthetic. Out of thirteen patients whom he had incised, three had died. Injections of bichloride of mercury were given in all of his cases. The retraction of the chest on the affected side had been only temporary.

A General Consideration of the Surgical Treatment of Empyema.—Dr. Robert Abbe read a paper on this part of the subject. The first thought which should come to the mind of the physician was to abandon all hopes of promoting absorption of the pus, and to rid the patient of it by the safest and quickest means. A brief review of the different operative procedures was given. Aspiration, repeated several times, was competent to cure a small number of cases. They were of the simple type, and would do well by any method of treatment, except the expectant. If, after aspiration of all that could be removed, the pulse rose and other unfavorable symptoms continued, the pleura should be opened freely. But by far the best results were known to follow incision and the insertion of a drainage-tube. Accumulated experience now said that the eighth or seventh intercostal space was the best place to make the opening, for the reason that, in the natural process of contraction of the cavity, all the boundaries approached that point. What was wanted first and last was a thoroughly free outlet. The purity of the wound was important. There was no need of irrigation of the cavity in the great majority of cases. A bichloride-of-mercury solution was the best for irrigation. The two risks of washing out the cavity were, first, the toxic action of the solution, and, second, death, the cause of which the post-mortems had not yet fully explained. As to an anæsthetic, a few whiffs of chloroform were sufficient for children. In adults local anæsthesia might be effected by the ether spray, rhigolene, or freezing by salt and ice; but a superior method was the use of cocaine, injected partly into the muscle and partly into the integument posterior to the wound. Thoracoplasty was briefly considered.

Dr. T. H. Burchard said his experience in the surgical treatment of empyema was limited to eleven cases, all of which were chronic. One case, the most prolonged, had existed thirteen months. The youngest patient was three years of age; the oldest about fifty. Each patient had been subjected to aspiration prior to the cutting operation. The smallest amount of pus removed after incision was seven ounces; the greatest amount was twelve quarts. In one case, which had been reported in the journals, the drainage-tube, in spite of precautions, slipped into the pleural cavity, and was removed some time subsequently by another surgeon. Seven patients were kept under observation a year or more. Three recovered entirely. Two developed phthisis and died; one had phthisis at present; one died of dysentery fourteen months after the operation, the dysentery being evidently tubercular. In one, hæmorrhage took place twenty-four hours after the operation, and the patient died within forty-eight hours. There was found extensive extravasation of blood over the entire surface of the pleuræ. No artery had been cut; there had been no bleeding from the wound. He had seen two such cases. He emphasized the importance of an early operation.

Dr. H. N. Heineman thought that empyema in children and in adults constituted two entirely different conditions. It was much more common in children; in them it was rarely unilateral, and the pericardium was apt to be involved, especially in empyema of the left side. The physical signs in children and adults were different. As a rule, distinct flatness was not so common in children as in adults. One was apt to make a diagnosis of phthisis in children, but distinct tympanitic breathing just beneath the ear led him to suspect pleurisy, not a lung with a cavity. Pleuritic fluid that contained a few pus cells gradually changed to pus in the adult; more rapidly in children.

Dr. E. G. Janeway said that, unless in exceptional cases, he would resort to incision after the first aspiration. There were certain cases complicated by septicæmia in which after incision a cure would not result. Again, there were cases of double empyema and purulent pericarditis in which the disease ran a rapid course, terminating fatally. The operation itself in these cases would be fatal. He referred to a case of pyo-pneumothorax, with sepsis, a spot of gangrene in the lung, and consolidation of a part of the lung, yet in which nature had effected a recovery. He also referred to a case in which aspiration failed to remove thin serous pus in the pleural cavity, not containing flocculi of fibrin. The pus was afterward let out through an incision made at the place of puncture. He was decidedly in favor of an early operation—as a rule incision.

Dr. W. H. Katzenbach said that from his experience with empyema in the adult he had formulated the rule to make an exploratory puncture with the hypodermic needle, and, if pus was found, to perform aspiration; if the pus was fœtid, finish the operation with incision; if the pus accumulated again rapidly, and there was fever, to make an incision; and, if the drainage was not satisfactory, to make a counter-opening. He related a case in which the duration of the empyema was eight years, during which time repeated aspirations were done.

Dr. A. L. **Loomis** had been accustomed to regard the pleurisy of children as a very different affair from that of adults. Acute suppurative pleurisy in children was of very common occurrence. In fact, whenever he found fluid in the chest of a child, the chest becoming pretty rapidly filled, he was pretty certain that it was purulent, not sero-fibrinous. According to his observation, suppurative pleurisy in the adult was in the majority of cases a dangerous thing, and rather rapidly dangerous. He had come to recognize it as infectious pleurisy in almost all instances. He had rarely found acute suppurative pleurisy in the adult without also finding some acute pneumonic disease in the opposite lung. He had seen the pleural cavity become filled with pus to its utmost capacity within twenty-four hours. And it seemed that the constitutional disturbance and fever went on in the same degree after removal of the fluid as before. We had to contend at this time with an acute disease which could not be removed simply by withdrawing the products of inflammation. But after the subsidence of the acute process, when the case became one of simple empyema, the chances of effecting a cure were decidedly in favor of treatment by incision. He thought the incision was of no benefit at the beginning of an acute suppurative pleurisy. He believed the cases were at the start fibrinous pleurisy, but within twenty-four hours afterward the chest cavity might be filled with pus.

Dr. J. W. **Roosevelt** had observed considerable destruction of the serous membrane itself in the empyema of adults, while in children it was affected only superficially; hence the difference in the prognosis. He referred to a case in which, while giving ether prior to the operation, he turned the patient over to relieve dyspnœa. A pus cavity discharged into the bronchus and trachea and the patient strangled. Speaking of antiseptic irrigations, he said it was difficult to conceive how they could reach the deep fibrinous deposit on the pleural surfaces.

Dr. A. **Caillé** had operated for empyema twenty-two times, nineteen of the patients being children, one five and another six months old. There had been six deaths and fifteen recoveries. Empyema should be treated like any other abscess, by incision and free drainage. He would not inject the pleural cavity of a child with a solution of carbolic acid, because of its toxic effects.

Dr. **Joseph** E. **Winters** had, during the past four years, seen ninety cases of pleurisy in children. Four had empyema while under observation. All the others recovered completely without a change of the effusion to pus. He had never seen a case of empyema in a child in which there was not much serum with the pus, and this was the reason why the fluid was readily absorbed in children. He objected to aspiration, as he believed it increased the tendency to the formation of pus.

Dr. A. **Seibert** thought there was no more danger attending the use of the hypodermic needle in pleurisy than for other purposes.

The **President** had noticed in a number of his cases severe cough coming on during the operation for removal of fluid from the pleural cavity. In one case, after the withdrawal of some of the fluid, the cough would come on, and could be relieved by partly refilling the pleural cavity with some liquid. He thought the cause of the tendency to cough and to hæmorrhage from the pleural surfaces was the same, namely, diminished pressure upon the bronchial tubes and blood-vessels. There was an effort to fill this partial vacuum, so to speak, by the blood suddenly rushing into the blood-vessels. This was the first step toward a broncho-pneumonia.

Book Notices.

A Manual of Midwifery. By **Alfred Lewis Galabin**, M. A., M. D., Obstetric Physician and Lecturer on Midwifery and the Diseases of Women to Guy's Hospital, London, etc. Illustrated with 227 Wood Engravings. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. xxiii-13 to 753. [Price, $3.]

Dr. **Galabin** is well known to obstetricians and gynæcologists by his contributions to periodical literature, and this book ought to make him equally known to the great mass of general practitioners in the two great English-speaking nations, for it is emphatically a book for the general practitioner. Although it purports to be only a manual, it is really a treatise sufficient for all ordinary purposes. By restricting his discussions of theoretical matters to points that may fairly be called essential (save in the appendix on Nägele's obliquity of the head), the author has been able to give within a moderate compass a more adequate exposition of practical questions than it is common to meet with in a manual. In its general teachings the work does not differ materially from the other well-known British textbooks of midwifery, but we find in it a clearness of description, a directness of statement, and a fair and manly appreciation of other men's convictions that seem to us to entitle it to special esteem. We can only allude briefly to some of the features that relate to subjects in a more or less unsettled state, or to those on which the author holds opinions somewhat distinctive. In cases of moderate pelvic contraction, in which the choice lies between version and the high forceps operation, Dr. Galabin is rather a firm advocate of the English preference for the forceps, as opposed to the favor shown to version in America and Germany, and his argument on this point leads him into somewhat greater attention to theory than he displays in most other parts of the book; but he ends by admitting, practically, like many another writer, that much depends on the operator's superior skill with the one procedure or the other. In the section on occipito-posterior positions of the head the author makes a decided point in favor of the use of the vectis, an instrument now almost discarded from practice, which he highly recommends for pulling the occiput forward so as to produce flexion and consequent rotation—a manœuvre in which he has been successful in a number of cases where he was called in to perform craniotomy, resorting afterward to the forceps if necessary. Concerning the practicability of axis-traction with an ordinary forceps, Dr. Galabin gives one of the best demonstrations that we remember to have met with. Some prominence is given to the advisability of noosing the prolapsed arm in cases of shoulder presentation where podalic version is to be attempted. In so far as the object is to enable the operator to prevent the ascent of the arm by the side of the head during extraction, the procedure has a certain utility, and we think it has been too much neglected of late years. Its special advantage, as the author points out, is to be seen in cases in which the arm belongs to the same side as the foot that is seized and brought down, and that eventually becomes the anterior arm, the more difficult of the two to liberate. We regret to see that Dr. Galabin's views of the Cæsarean operation and its various modifications are hardly more favorable than those generally held in the United Kingdom, where craniotomy still has a firm hold. The Porro operation is spoken of favorably, and laparoelytrotomy is mentioned as perhaps the most hopeful procedure in desperate cases, provided the operator is expert. These particular points we are glad to note, but still this book, like almost all British writings on the subject, goes to confirm the impression that the Cæsarean operation and its congeners fall far short of adequate appreciation in Great Britain. The book has two appendices—one on Nägele's obliquity of the head, and the other on the choice of the leg in podalic version. They are both excellent examples of clearness in argumentative writing. Many of the pictorial illustrations are lacking in clearness, and the type used is rather small. We hope to see these defects remedied in subsequent editions.

Treatment of Disease in Children, including the Outlines of Diagnosis and the Chief Pathological Differences between Children and Adults. By Angel Money, M. D., M. R. C. P., Assistant Physician to the Hospital for Sick Children, Great Ormond Street, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xiii–560. [Price, $3.]

This thoroughly practical treatise is a meritorious exception to the hackneyed rule of text-books and lectures which, after a rehash of traditional symptomatology rarely completely verified at the bedside, usually circumscribe "treatment" within the narrow bounds of prescribing pharmaceutical formulæ. While not disregarding these, Dr. Money gives them a subordinate place, dwelling rather upon the more important clinical management on which the issue of recovery chiefly depends. The work is in no sense a "cram-book" for students about to undergo the parrot-like formality of an examination, but presupposes that "the reader is already acquainted with a work on general medicine"; and with this proviso sets forth the information most needed and hardest to be gained by the practitioner after graduation. Instead of the customary misleading attempt to portray the typical features of each malady, the author starts with the caution that "It is the unexpected that happens in infantile physio-pathology. Perhaps this non-conformity of disease and health to the type or test is the most striking characteristic of children, and especially infants." Hence, even more than in adults, it is important to treat the patient and not the disease, or, to quote the opening words of the book, "the fundamental principles of therapeutics in childhood are those of prevention, hygiene, and expectancy."

The first two chapters deal respectively with the general treatment of disease, including the therapeutic application of hygienic agents, and with feeding. The various forms of indigestion, from transient functional disturbance or simple gastric catarrh to athrepsia, are next considered, and their pathogeny and treatment—the latter mainly by hygienic means—admirably expounded. Subsequent chapters cover the range of the pathology of childhood, commencing with general diathetic diseases and terminating with the acute specific fevers. Wherever pertinent, the peculiarities of infantile anatomy and physiology, as modifying diagnostic methods, are well described, the chapter on disorders of the respiratory system being notably interesting in this respect. As regards internal medication, the views and favorite drugs of nearly all contemporary writers are given, with the author's reasons for adopting or discarding them, and, in the former case, with useful suggestions as to the most available modes of administration, though we confess to some doubt of the safety of the recommendation that in a recalcitrant little patient a pill protested against "be neatly dropped within the region of the involuntary reflex apparatus for deglutition, especially if the child draws a deep breath of astonishment." We note, too, the conventional British dogma that the temperature of the nursery should be "about 60° F.," which, however tolerable in the English climate, and with purely radiant heating methods, is neither comfortable nor safe in our latitude and with the convecting appliances advocated in the text.

The manner is more open to criticism than the matter, betraying numerous evidences of carelessness and haste in composition. In the directions for making "brandy and egg," for example, the brandy is altogether omitted; "syrup of the iodide" (meaning presumably of iron) is several times alluded to; and here and there a disagreement in number between verbs and their nominatives occurs; for example (p. 145), "enlarged glands . . . is a cause of the peculiar kind of coughing that is most frequently heard in hooping-cough," and again (p. 175), "Counterirritation . . . are most valuable." The proof-reader has overlooked not a few typographical errors, seemingly making the author prescribe (p. 65) doses of ʒ xx [? ♏] of glycerin as a menstruum for cod-liver oil, and discountenance (p. 249) "excess of sugars and starches, as preventive" (? productive) "of acidity and intestinal catarrh." Minor blemishes of this sort, however, we trust to see rectified in future editions of a work which we cordially commend to our readers as occupying a field almost untouched in medical literature, and affording a model which may be profitably followed in other branches of practice.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—J. Bœckel, "Étude sur les kystes hydatiques du rein au point de vue chirurgical."

J. B. Baillière & fils, Paris.—A. Cullerre, "Nervosisme et névroses." (3*fr.* 50.)

A. Delahaye & E. Lecrosnier, Paris.—P. Bénard, "La glosso-stomatite épithéliale chronique superficielle. (Psoriasis buccal de Bazin.)" (2*fr.* 50.) —— Gélineau, "Traité de l'angine de poitrine." (8*fr.*) —— Hasmon du Fresnoy, "Considérations pratiques sur l'avortement." (2*fr.*) —— Odent, "Des angines pseudo-membraneuses au cours de la scarlatine." (2*fr.*) —— Pouillet, "De l'onanisme chez la femme." (3*fr.* 50.)

T. Ackermann, Munich.—J. Steinbacher, "Die männliche Impotenz u. deren radikale Heilung durch ein rationelles combinirtes Naturheilverfahren." (4*M.*)

E. Besold, Erlangen.—G. Schwalbe, "Lehrbuch d. Anatomie des Auges." (8*M.*) —— G. Schwalbe, "Lehrbuch d. Anatomie des Ohres." (9*M.*)

W. Braumüller, Vienna.—"Vorträge über Cholera asiatica im Wiener medicinischen Doktoren-Kollegium." (1*M.* 60.)

Denicke, Leipsic.—O. Zacharias, "Ueber gelöste u. ungelöste Probleme d. Naturforschung." 2d ed. (4*M.* 50.)

F. Enke, Stuttgart.—J. Veit, "Die Anatomie des Beckens."

G. Fischer, Jena.—E. Sehrwald, "Bedeutung des Nervensystems f. die Niere." (2*M.*)

E. Grosser, Berlin.—W. Lublinski, "Die Kehlkopfschwindsucht." (0*M.* 50.) —— T. Schott, "Behandlung d. chronischen Herzkrankheiten." (1*M.*)

Heuser, Neuwied.—Hüllmann, "Zur Therapie d. Chlorose." (0*M.* 75.) —— H. Janke, "Die willkürliche Hervorbringung des Geschlechts bei Menschen u. Hausthieren." (11*M.*) —— P. Kadner, "Zur Anwendung diätetischer Kurmethoden bei chronischen Krankheiten." (1*M.*) —— Levy, "Zur Behandlung d. Sterilität." (1*M.*)

A. Hirschwald, Berlin.—C. A. Ewald, "Handbuch d. allg. u. spec. Arzneiverordnungslehre." 9th ed. (20*M.*) —— J. M. Da Costa, "Handbuch d. spec. med. Diagnostik." 2d Germ. ed., transl. by H. Engel and C. Posner. (12*M.*) —— S. W. Mitchell, "Die Behandlung gewisser Formen von Neurasthenie u. Hysterie." Transl. by G. Klemperer, preface by E. Leyden. (2*M.* 40.) —— A. Wiegand, "Lehrbuch d. Pharmakognosie." 4th ed. (10*M.*) —— H. v. Ziemssen, "Die Elektricität in d. Medicin." 5th ed. (12*M.*)

Lipsius & Tischer, Kiel.—H. Meyer, "Knochenabscesse." (1*M.*) —— F. Mose, "Ueber Exenteratio bulbi." (0*M.* 80.) —— F. Plehn, "Beitrag zur Lehre vom chronischen Hydrocephalus." (1*M.*)

BOOKS AND PAMPHLETS RECEIVED.

The Modern Treatment of Diseases of the Heart. A Manual of Clinical Therapeutics. By Prof. Dujardin-Beaumetz, Member of the

Academy of Medicine, and of the Council of Hygiene and Salubrity of the Seine, etc. Translated from the Fourth French Edition by E. P. Hurd, M. D., etc., Newburyport, Mass. Detroit: George S. Davis, 1887. Pp. x–179. [The Physician's Leisure Library.]

Sexual Impotence in the Male and Female. By William A. Hammond, M. D., Surgeon-General, U. S. Army (retired list), Professor of Diseases of the Mind and Nervous System at the New York Post-graduate Medical School, etc. Detroit: George S. Davis, 1887. Pp. 305.

Neuerungen und Verbesserungen in den Applicationen der Fracturenbehandlung. Von Dr. Aug. Schreiber, Oberarzt am städt. Krankenhaus in Augsburg. Mit 107 Abbildungen. [Separatabdruck aus der "Illustr. Monatsschrift d. ärztl. Polytechnik."]

State Control of Medicine. By Louis A. Weigel, M. D., Rochester, N. Y. [Reprinted from the "Medical Press of Western New York."]

Suppurative Inflammation of the Antrum. By E. Fletcher Ingals, M. D., etc., Chicago. [Reprinted from the "Journal of the American Medical Association."]

Manual of the United States Hay-fever Association, containing a Report of the Annual and Adjourned Meetings of 1886, Prize Essays, etc. Lowell, Mass.: Vox Populi Press, S. W. Anse & Co., 1887.

The Management of Eczema Infantile. A Paper read before the Ohio State Medical Society, Toledo, June, 1887. By B. Merrill Ricketts, M. D., etc., Cincinnati. [Reprinted from the "Cincinnati Lancet Clinic."]

A Review of the most Important Advances in Surgery, Medicine, and Pharmacy in the Last Forty Years. By C. W. Moore, M. D., San Francisco. [Reprinted from the "Pacific Record of Medicine and Surgery."]

The Radical Cure of Retro-displacements of the Uterus and Procidentia, by Alexander's Operation and Median Colporrhaphy. By J. H. Kellogg, M. D., Battle Creek. [Reprinted from the "Transactions of the Michigan State Medical Society," 1887.]

Report on the Ætiology of Leprosy to the California State Medical Society. By W. F. McNutt, M. D., M. R. C. P., etc.

Miscellany.

Anthropological Notes.—At various recent meetings of the *Société d'anthropologie*, of Paris, the following were among the subjects presented:

Polymastia.—M. Fauvelle, after reviewing the zoological signification of polymastia in different genera, remarked that the condition did not recall any particular ancestral form, but was an anomaly by excess of development during embryonic life, produced at a time when great vascularization of the integument caused, by proliferation within the generative cells of the epidermis, the formation of hairs, sebaceous glands, and mammæ. M. Manouvrier, one of the society's secretaries, thought that, in spite of M. Fauvelle's interesting discourse, the question was still obscure, and the hypothesis of atavism had not by any means been disproved.

The Ancient Egyptians.—M. Maspero presented a detailed description, by M. Fauquet, of an Egyptian mummy which, from the unusual character of the embalming, was thought to be that of a person who had been the subject of violence. None of the cavities of the body had been emptied. M. Maspero considered belladonna to have been the base of many poisons used in ancient Egyptian magic, the secret of which had been handed down among the sorcerers to the present day.

Suppression of the Menses in Cold Countries.—In a discussion on the inhabitants of eastern Greenland, it was stated that during the most rigorous seasons the catamenial flux was suspended, and the same was reported for the upper Alpine regions. It was also said that physicians residing in the mountainous portion of the department of Isère, France, had observed a cessation of menstruation during the six cold months, without the occurrence of evil consequences.

Tattooing.—An essay on this subject, by Lacassagne and Magitot, being an extract from the "Dictionnaire encyclopédique des sciences médicales," treated of the purposes of tattooing, its processes, its geographical distribution, the accidents and complications attending or following it, and its medico-legal relations.

The Utilization of Monkeys.—M. Topinard presented, on behalf of M. Victor Meunier, an essay in which the latter unfolded the idea of a plan of selection, cross-breeding, and education for the purpose of rendering monkeys useful animals.

Talismanic Belts.—About two years ago a physician of Saint-Germain, having been called to a woman in the last stages of consumption, found her body tightly girt with a belt or band made of cords (the *ceinture de Saint-François*). These *ceintures* are believed by the superstitious to have the power to preserve those who wear them from hell. A *ceinture bénie*, supposed to facilitate parturition, is given out from one of the principal convent-schools of Brittany. It bears the painted inscription "*Notre-Dame de Délivrance, protégez-nous.*" Before it is sent out, great care is taken to touch it with a fragment of the *ceinture* that is reputed to have belonged to the Holy Virgin, the authenticity of which piece of material is guaranteed by numerous parchments.

Errors of Development.—M. Blet showed a human fœtus in which the two eyes were fused together in the median line. On another occasion, M. Magnan presented three cases of vicious conformation of the genital organs, and called attention to co-existing arrest of development in other parts—the pharynx and the brain—with dependent insanity, in the same person. The occurrence of feminine brains in masculine bodies, and *vice versa*, was noted, and it was remarked that heredity seemed to have been a potent formative factor in these instances.

Bromidia.—Messrs. Battle & Co., the manufacturers of this proprietary preparation, announce a decree by the Circuit Court of the United States, for the Eastern District of Pennsylvania, enjoining the firm of D. W. Gross & Son from "manufacturing, selling, or offering for sale, directly or indirectly, any medical preparation or compound manufactured by them or any other person than complainant, having affixed thereupon or upon the bottles or packages containing the same, in any manner, the word 'bromidia,' or by affixing to bottles or packages containing any medical preparation not manufactured by complainant any word which is a colorable imitation of the word 'bromidia.'"

The Library of the Post-graduate Medical School.—In the "Sixth Annual Announcement" of the New York Post-graduate Medical School and Hospital it is stated that the library now contains more than a thousand volumes.

The Medical Society of Virginia will meet in Richmond on Tuesday, October 18th. "The Choice of Anæsthetics" is announced as the subject of a general discussion, to be opened by Dr. Hunter McGuire, of Richmond. The full programme is not yet issued.

The College of Physicians and Surgeons under a New Name.—In an advertisement of the Italian translation of Bumstead and Taylor's work on "Venereal Diseases," the first-named author is mentioned as "Professore di malattie veneree al College of hyticiny ad Lurgeous."

The American Medical Association.—The "Journal of the American Medical Association" has information to the effect that Dr. R. B. Cole, of California, has felt constrained to decline to give the address in general medicine at the next annual meeting, and that Dr. Roberts Bartholow, of Philadelphia, has promised to deliver it.

The Health of Boston.—During the week ending Saturday, August 20th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 6 cases and 5 deaths; scarlet fever, 2 cases and 1 death; typhoid fever, 37 cases and 3 deaths; measles, 19 cases and 1 death. There were also 25 deaths from consumption, 6 from pneumonia, 3 from whooping-cough, 11 from heart disease, 3 from bronchitis, and 13 from marasmus. The total number of deaths was 213, against 215 in the corresponding week last year. During the month of July there were 1,119 deaths. This greatly increased death-rate, as compared with that of July, 1886, in which month 889 deaths were registered, is said to have been largely due to the excessive humidity of the atmosphere, which was much greater than in any corresponding month during the past fifteen years.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of July, there were 459 deaths during the month, including 1 from cholera morbus, 19 from cholera infantum, 5 from cerebro-spinal meningitis, 27 from croup and diphtheria, 6 from diarrhœa, 1 from dysentery, 6 from typhoid fever, 1 from remittent fever, 1 from malarial fever, 1 from measles, 2 from whooping-cough, 2 from pyæmia, 1 from scarlet fever, 1 from septicæmia, and 3 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 18th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending July 30th corresponded to an annual rate of 23·2 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Huddersfield, viz., 12·7, and the highest in Preston, viz., 30·1 in a thousand. Small-pox caused 1 death in Sheffield.

One hundred and twenty-eight thousand four hundred and thirty-six deaths were registered in England and Wales (population, 28,247,151) during the quarter ending June 30, 1887, including 6,144 from measles, 2,986 from whooping-cough, 1,632 from diarrhœa, 1,354 from scarlet fever, 1,066 from fever, 786 from diphtheria, and 47 from small-pox, corresponding to an annual rate of 18·2 in a thousand.

London.—Two thousand and seven deaths were registered during the week ending July 30th, including 62 from measles, 20 from scarlet fever, 20 from diphtheria, 92 from whooping-cough, 9 from enteric fever, 517 from diarrhœa and dysentery, and 9 from cholera and choleraic diarrhœa. There were 169 deaths from diseases of the respiratory organs. Different forms of violence caused 55 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 24·8 in a thousand. In greater London, 2,420 deaths were registered, corresponding to an annual rate of 23·3 in a thousand of the population. In the "outer ring" 109 deaths from diarrhœa and 8 from whooping-cough were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending July 30th, in the sixteen principal town districts of Ireland, was 24·6 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 0, and the highest in Kilkenny, viz., 59·2 in a thousand.

Dublin.—Two hundred and nine deaths were registered during the week ending July 30th, including 22 from measles, 3 from whooping-cough, 2 from scarlet fever, 1 from typhus, 2 from enteric fever, 1 from cerebro-spinal fever, and 16 from diarrhœa. Diseases of the respiratory organs caused 16 deaths. Five accidental deaths were registered, and in twenty-four instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 30·9 in a thousand.

Two thousand five hundred and twenty-nine deaths were registered in the Dublin registration district (population, 353,082) during the quarter ending July 2, 1887, corresponding to an annual rate of 28·7 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending July 30th corresponded to an annual rate of 19·9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 6·5, and the highest in Leith, viz., 28·1 in a thousand. The aggregate number of deaths registered from all causes was 497, including 4 from measles, 12 from scarlet fever, 4 from fever, 3 from diphtheria, 41 from whooping-cough, and 39 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 23d, corresponded to an annual rate of 24·1 in a thousand. The lowest rate was recorded in Kassel, viz., 14·2, and the highest in Aachen and München, viz., 38·4.

Nice.—One hundred and eighteen deaths were registered during the first fifteen days of July, 1887, including 5 from small-pox.

Palermo.—The United States consul, in his dispatch dated August 1, 1887, states that "during the week just closed only 12 cases and 6 deaths from cholera have been reported in the journals. . . . No public official reports have been made thus far, . . . but it is known that many more cases and deaths have occurred than those reported in the journals, a larger number, indeed, having come under my own observation. In view of the temper and character of the people, the authorities naturally desire to keep the matter quiet as long as possible. A few 'demonstrations' have been held and the municipality threatened because of its having temporarily discontinued the free distribution of rice. Upon the occasion of former threatened epidemics in Palermo, Sicily has been practically quarantined and shut out from all other ports of Italy, thus ruining trade for months. This year, however, she is fortunate in having a Palermitan in the cabinet at Rome, . . . to whom she is indebted for perfect freedom to enter Italian ports, thus far, after inspection, disinfection, etc."

Copenhagen.—The United States minister, in his dispatch under date of July 29, 1887, states that a quarantine order has been issued by the Danish Government July 18, 1887. "According to this order, the provisions of the quarantine law of March 31, 1885, are to be enforced in regard to ships coming from Sicily or Italian continental ports between the Capes St. Maria and Spartivento, and the importation of rags, etc., from these ports is prohibited. The provisions of paragraph 1, section 2, of the quarantine law of July 2, 1880, are to be enforced regarding the following places: Italian continental ports on the coast between Cape Spartivento and the French boundary, Trieste, Tunis, Egyptian ports, Red Sea ports, Fez, Mequinez and Dar el Beida in Morocco, Rio de Janeiro, and Havana. The importation of rags, hides, etc., from the following places is still forbidden: Chili, Sicily, Paraguay and Uruguay, the Argentine Republic, Austrian-Hungarian ports, and Italian continental ports between Cape St. Maria and Cape Spartivento. The importation of rags, etc., is still prohibited from Rio de Janeiro and Havana, and special attention is to be paid to the cleansing, under official inspection, of the effects of travelers brought from these places."

Havana.—The United States sanitary inspector reports that, owing to the prevalence of small-pox in Cuba, he vaccinates all persons leaving the city who have not had small-pox or been protected by vaccination. All passengers and their baggage are carefully inspected before leaving Havana. Forty-five deaths from small-pox and 18 from yellow fever were registered during the week ending August 6, 1887.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	July 30.	2,260,045	866	..	....	13	....	22	4	20
Glasgow	July 30.	524,039	184	..	....	....	....	....	9	2
Warsaw	July 23.	439,174	241	..	....	16	....	....	....	....
Calcutta	June 25.	433,219	134	3	....	....	....	1	....	....
Calcutta	July 2.	433,219	160	9	....	....	....	....	....	....
Amsterdam	July 30.	378,686	137	..	....	....	1	1	....	....
Rome	June 18.	369,214	180	..	....	3	....	3	1	2
Munich	July 23.	269,000	201	..	....	....	....	....	4	1
Palermo	July 30.	250,000	117	6	...	....	....	4	8	2
Belfast	July 30.	224,422	96	..	....	....	2	....	....	....
Genoa	July 30.	179,339	100	..	....	....	....	....	....	1
Leipsic	July 30.	170,000	80	..	....	....	....	...	....	4
Trieste	July 23.	150,157	104	..	....	5	....	....	9	2
Bremen	July 23.	119,000	42	..	....	....	....	....	....	1
Havre	July 30.	112,074	78	..	....	2	....	11	....	....
Mayence	July 23.	65,701	28	..	....	....	1	....	....	....
Merida	August 2.	50,000	45	..	1	....	....	....	....	....
Guayaquil	July 21.	35,000	43	..	....	12	....	....	.. .	...
Guayaquil	July 28.	35,000	48	..	....	6	....	....	....	....
Iquique	June 25.	16,000	12	..	....	1	....	....	....	....

United States.

Cape Charles Quarantine Station, Virginia (Passed Assistant Surgeon F. M. Urquhart, M.-H. S., in charge).—The British steamship "Elginshire," from Matanzas, an infected port, arrived August 14th, and is now undergoing a quarantine of observation.

Egmont Key, Florida (refuge station).—The sanitary inspector (Dr.

E. Hebersmith) reports 2 cases of yellow fever among refugees landed August 12th; now convalescent.

Key West, Fla.—Yellow Fever.—The medical officer in charge of the U. S. Marine-Hospital Service reports 252 cases and 52 deaths to date.

Sympathetic Inflammation of the Eyeball.—Gunn ("Roy. Lond. Ophth. Hosp. Rep."), as a result of the analysis of about fifty cases of sympathetic inflammation of the eye under his own observation, draws the following conclusions: 1. It is well to employ mercurials in all cases during the acute stage, from the commencement. 2. When and while the inflammation is of a very severe type, treatment should be merely palliative, and no operative measures are warranted. 3. Cases of moderate severity are best left alone, without operation, for the first six months at least, and then iridectomy may be attempted if the tension is plus and the iris bulged forward. If at the end of a year the tension is about normal, but the pupil excluded and occluded, improvement may be expected from a large iridectomy, with extraction of the lens, followed subsequently by division of the lymph and opaque membrane with Weiss's scissors.

THERAPEUTICAL NOTES.

Trimethylcarbinol and Dimethylcarbinol.—At a recent meeting of the Paris *Société de thérapeutique* ("Gaz. hebdom. de méd. et de chir."), M. Blondel read an account of certain investigations of these substances by Dr. Chapiroff, of St. Petersburg. Both of them are tertiary alcohols, and, unlike the primary alcohols, they are sedatives. Dimethylcarbinol is a powerful depressant of the nervous system, more rapid and intense in its action than the other. Trimethylcarbinol, given to man in doses of from five to fifteen drops twice a day, causes a manifest lowering of the arterial pressure, together with a state of apathy and drowsiness, followed by deep, tranquil sleep. It appears to be indicated, therefore, in cases characterized by excitability, whether from alcohol or from a neurosis.

Borate of Ammonium in Phthisis.—Lashkevich (cited in the "Lancet") has found this salt of great value in phthisis. He gives five grains three times a day, in solution, alone or with codeine, hyoscyamus, or some other sedative. The effect is to reduce the expectoration and, in some cases in the early stage, to diminish the fever. Inhalation of a spray of the solution also reduces the expectoration and alleviates irritating and painful conditions of the mouth and throat.

A Mercurial Potash Soap as a Sorbefacient.—Svetukhin ("Russk. Medits."; "Lancet") finds a preparation termed *sapo kalinus hydrargyrosus*, made by mixing metallic mercury, mercurial ointment, caustic potash, and olive-oil in certain proportions—the resulting soap containing a third of its weight of mercury—an advantageous application for promoting the absorption of pleuritic effusion. It is said to be more easily rubbed in than mercurial ointment, less irritating to the skin, and not so rapidly productive of stomatitis. From half a drachm to a drachm is agitated with hot water, so as to form a good froth, and lightly rubbed into the skin. In cases of simple watery effusion, an effect may be detected after from six to ten inunctions, and after twenty the water is usually found to have wholly disappeared.

Green Hellebore in Diseases of the Heart.—Tschistowitsch ("Nowost. Therap."; "Bull. gén. de thérap.") has used an aqueous extract and an infusion of the root of *Helleborus viridis* in eleven cases of various cardiac affections, in the stage of absence of compensation. In six cases, fifteen drops of a one-per-cent. solution, every two hours, diminished the frequency and force of the heart-beats, increased the flow of urine, and caused a prompt subsidence of the symptoms due to lack of compensation. In two cases, amelioration was caused by the concomitant use of hellebore and an infusion of *Adonis vernalis*, although each drug alone had failed to produce any effect. In two cases complicated with nephritis, and in a case complicated with pleurisy, no effect was produced.

Cyanide of Zinc in Cardiac Affections.—According to the "Lancet," Lashkevich has produced remarkable effects with this remedy in functional disorders of the heart, some cases being positively cured. Even in cases of organic heart disease it caused a decided amelioration, and had the advantage over other drugs of not deranging the digestive apparatus. The dose is from a tenth to an eighth of a grain, three times a day.

ANSWERS TO CORRESPONDENTS.

No. 28.—You will find many anatomical anomalies described in a series of articles contributed by Gruber to Virchow's "Archiv für pathologische Anatomie und Physiologie und für klinische Medicin," published at intervals for several years past.

No. 29.—The proper expression is Bartholin's glands (not Bartholini's), but one may say *glandulæ Bartholini*, the latter word being in that case the genitive of the Latinized form of the name.

No. 30.—An English translation of Wunderlich's work, entitled "On the Temperature in Diseases: a Manual of Medical Thermometry," was published by the New Sydenham Society in 1871.

No. 31.—Sulphuric acid is a very powerful drying agent, but anhydrous chloride of calcium, which is also very efficient, is much more convenient for such a purpose as the one you mention.

No. 32.—For information concerning alveloz, see this Journal for January 31, 1885, p. 127; for January 9, 1886, p. 56; and for June 4, 1887, p. 630.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, September 3, 1887.

Original Communications.

HAY FEVER.

ANALYSIS OF FORTY-TWO CASES TREATED BY THE WRITER, TOGETHER WITH THE RESULT OF TREATMENT.*

By JOHN O. ROE, M. D.,
ROCHESTER, N. Y.

On considering the cloud of nebulous theory which has surrounded the subject under consideration, and the mass of speculation which has been propounded by the numerous writers on this subject during the past four years, it is with some hesitation that I have presumed to occupy any portion of your valuable time with a further discussion of this subject. It is my purpose, however, not to enter into a theoretical discussion of the subject, or to review the various opinions held by different writers, but to give a brief analysis of the cases which have come under my observation, and to present the conclusions deduced from such observation.

I have purposely retained the term "hay fever" to designate the affection under consideration, for the reason that it is a universally accepted term, and that all fully understand what is implied by it. In applying to the affection the more scientific terms that have been proposed, we have, in many instances, to explain the meaning of the terms before their significance is fully understood. In some instances the names proposed for the affection imply a mere hypothesis.

Since I first observed that this affection was related to nasal disease, I have treated forty-four cases, including the hay-fever season of last year. It is often true that an erroneous conclusion is drawn from the observation of a single case of a disease, because it may present phenomena of an unusual character. The number of cases which I have treated, although not large, is, however, sufficient, I think, to direct us to quite definite conclusions, as I have been particularly careful to observe and systematically record them.

The study of these cases has substantially confirmed the opinions which I expressed in my first article on this subject in February, 1883,† although in some respects my views have been more or less modified. While, as you already know, Dr. Daly ‡ was the first to call attention to the clinical connection between hay fever and nasal diseases, the writer was the first to explain the relation of cause and effect between them, through the correlation of the vaso-motor or the sympathetic nervous system, and to point out the value of the galvano-cautery in the treatment of the nasal disease.#

Of the 44 cases I now report to you, 27 were in males and 17 were in females, the ages of the males ranging from 21 to 51, and of the females from 19 to 58. Of the males between the ages of 20 and 30, there were 6; between 30 and 40, 13; between 40 and 50, 4; and between 50 and 60, 4.

Of the females between the ages of 15 and 20, there was 1; between 20 and 30, 7; between 30 and 40, 3; between 40 and 50, 5; and between 50 and 60, 1.

Of the 27 males, there were 5 farmers, 5 merchants, 2 railroad engineers, 2 real-estate dealers, 1 physician, 1 lawyer, 1 banker, 1 clergyman, 1 insurance agent, 1 contractor, 1 book-dealer, 1 hotel clerk, 1 superintendent of public instruction, 1 commissioner of pensions, 1 grocer, 1 carpenter, 1 traveling salesman. Of the 16 females, there were 1 vocalist, 1 music teacher, 1 school-girl, and 1 worker in a shop, and the remaining 12 had no occupation other than their domestic duties. Of these 42 patients, 7 had been suffering for 10 years, 7 for 8 years, 6 for 4 years, 4 for 2 years, 3 for 14 years, 2 for 6 years, 2 for 12 years, 2 for 15 years, 2 for 20 years, 2 for 30 years, and 1 each for 3, 7, 9, 11, 13, 16, and 17 years.

The date of the commencement of the attack varied from May 1st to August 21st. It is a significant fact that in every instance active symptoms of the affection subsided soon after the appearance of frost. The connection between the cause of the irritation and the frost will be alluded to further on.

In nearly every case there was a special proclivity to repeated and successive colds in the head, with more or less nasal obstruction. In several instances the attacks dated from a particular year in which the patient had taken, during the summer months, *an exceedingly severe cold in the head.* About one fourth of the forty-four patients—from the fact that they were subject to repeated colds in the head—considered their hay fever, for the first two or three years, simply an aggravated form of their accustomed colds.

In several instances, on interrogating the patients regarding the nasal passages and asking whether they suffered from so-called nasal catarrh during the remainder of the year, they stated that they were entirely free from any such difficulty during the remainder of the year, except an occasional cold in the head. An examination of these cases revealed in every instance, however, disease of the nasal passages, and areas so sensitive that the slightest touch of the probe excited sneezing, and in some instances well-marked hay-fever symptoms.

In all but 5 of these 44 cases I found inferior turbinated hypertrophy. In these 5 cases there was an excessive vascularity of the parts and dilatation of the cavernous sinuses, which were collapsed when free from irritation so that the passages were entirely clear, but by the application of the slightest irritant they would at once become distended sufficiently to occlude the nostrils. In 19 cases, deviation of the septum was found with angular projection from the deflected side. In 11 cases there was deviation to the left side, and in 8 to the right. In 23 cases the middle turbinated bodies on one or both sides were found hypertrophied and projecting against the septum. The location of the special points of sensitiveness was by no means constant. They were usually found over the region of the greatest amount of hypertrophy. In very few instances were they confined alone to the posterior end of the turbinated bodies, or alone to the anterior inferior turbinated bodies. Not only in a majority of the cases were they not confined to the turbinated bodies, but in most of the cases the septum was quite as sensitive as any portion of the turbinated bodies. In some instances the septum was more sensitive, and sneezing and hay-fever symptoms were more readily developed than in any other portion of the nose.

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* Read before the American Laryngological Association at its ninth annual congress.

† "The Pathology and Radical Cure of Hay Fever, or Hay Asthma," "N. Y. Med. Jour.," May 12, 19, 1883. See also a second article on the same subject, "N. Y. Med. Jour.," May, 3, 10, 1884.

‡ "The Relations of Hay Asthma and Chronic Naso-pharyngeal Catarrh," "Arch. of Laryngol.," iii, 1882, p. 157.

# Since that time both Dr. Daly's observations and my own have been fully confirmed by many careful observers and writers on this subject both in this country and in Europe, among whom are Hack, Herzog, Hering, Böcker, Bresgen, Massei, and McBride, of Europe, and Mackenzie, Bosworth, Allen, Sajous, Ingals, Robinson, and Seiler, of our own country.

The sensitive areas of the septum were in a majority of the cases over the lower and posterior part. In one third of the cases, however, small, rounded, pad-like masses of hypertrophied tissue were also found on the middle of the upper portion, and so exquisitely sensitive that violent sneezing would be induced by the lightest touch of the probe. In some other cases, every portion of the septum was exquisitely sensitive.

In 33 of the 44 cases, dust was found to be an exciting cause, while in 26 of these 33 cases it was given as the principal cause. Rag-weed was an exciting cause in 15 cases, in 9 of which it was the principal cause. In many cases irritation was also produced by other substances, as the fumes of matches, coal-gas, new-mown hay, and the pollen of flowers, especially of roses. In some cases an attack could be caused by a large number of different substances.

So positively were many affected by the pollen of rag-weed that they could predict the date of their attack by the time of the ripening of the weed. If for any reason the season was backward, and the rag-weed retarded in ripening, their attack would be correspondingly delayed.

Of the 44 cases, 32 of the patients were attacked with asthma. In six it came on at the beginning of the hay fever, in thirteen after the affection had continued for about two weeks, while in the remainder it appeared only after the greater portion of the irritation in the nose had subsided.

The presence of the dust of dried hay at any time of the year would excite in some a temporary attack of hay-fever and asthma, and ten were thus subject to asthmatic attacks brought on by the inhalation of certain substances which the patients recognized as especially irritating to them, such as the fumes of a sulphur match or coal-gas.

In some cases, asthmatic attacks were associated with each fresh cold in the head, while in some others, asthmatic attacks were excited by the inhalation of these substances without the occurrence of a coryza. It is a noticeable fact in these cases that those most sensitive to the inhalation of foreign substances, and those in whom the asthmatic attacks were excited with less apparent irritation in the nose, were those who had been long sufferers from this affection; while in those who had been sufferers but a short period, it was exceptional that asthmatic attacks were excited without a more decided irritation of the nasal passages. In every case where there was marked disease in the nasal cavity, there was also more or less hyperæmia of the larynx and pharynx, and in some cases this amounted to a chronic pharyngitis, laryngitis, and bronchitis. As a rule, the amount of pharyngeal, laryngeal, and bronchial inflammation depended upon the severity of the attacks, the amount of chronic disease existing in the nasal passages, and the length of time the patient had been subject to hay-fever.

Of these 44 patients, but 12 had what is termed a nervous temperament, while 9 were distinctly phlegmatic. The others were of intermediate types of temperament, the classification of which is somewhat arbitrary. Four of the patients who were distinctly nervous were entirely free from any nervous excitability before their first attack of hay fever; but this condition developed afterward in a corresponding degree to the severity of the subsequent attacks, and the systemic depression that followed them corresponded in nearly every instance to their severity or to the number of years the patients had been sufferers.

In order, therefore, for the production of this affection, we must have, first, a localized disease in the nasal passages, rendering the tissues unduly sensitive to local irritation, and, secondly, an external irritant brought by the atmosphere in contact with the sensitive tissue. Irritation reflected to the nose from other organs which may be diseased and susceptible to local irritation can not properly be classed with the affection under consideration, but should be considered with the diseases of the parts from which the irritation is reflected. It is on account of a lack of discrimination that hay fever is so often confounded with all the other affections of a reflex character in which the nares and bronchi may be involved.

The sequence of events in the evolution of this affection, it is believed by the writer, is as follows: A continued irritation of the nerve-filaments in the nose causes the nerve-ganglia, or centers from which these nerves are derived, to become unduly active, and in due time abnormally so. This abnormal activity is in turn reflected to the other nerves radiating from this center, and these nerves in turn take on increased activity, which is made manifest in increased vascularity of the parts which they supply, owing to the diminished control of the afferent vessels. This activity of the nerve-centers increases in proportion to the degree or length of time that the primary irritation continues, and finds expression in a corresponding increased vascularity and irritability of the parts to which these nerve-filaments go. Now, inversely in proportion to the increased activity of the center is the degree of irritation required to excite it.

At the beginning of the attack of hay-fever a strong irritant is required to start the train of symptoms. After a time, as the nerves and the nerve-centers become more sensitive to impressions, a lesser irritant is required to start the same train of symptoms, and the influence of the irritation is also extended to other connecting nerve-centers and the parts supplied by them. After a time, also, the parts that were secondarily irritated become primary points of irritation, and act in conjunction with the primary seat. This train of symptoms can be traced in nearly every case. At first we see simply an inordinate vascularity of the parts directly irritated, next we have the same condition in all the parts to which this ganglion sends its nerve-filaments—as the conjunctive lacrymal apparatus and the larynx and pharynx—then. in the next ganglion in the chain and the parts to which it sends nerve-filaments, and so on till every nerve-center of this chain becomes involved in this undue activity, and the point is reached when the centers controlling the vascular supply of the trachea and bronchi are involved, culminating in a chronic bronchitis. This clearly explains why asthma is readily induced by the inhalation of substances that may have ceased to be irritating to the tissue in the nasal passages, when their susceptibility has been removed by appropriate treatment. Those writers who have been led to believe that there is no connection between nasal disease and this asthma overlook the influence which the disease in the nose has exerted in bringing about this condition.

It can not be denied that the ganglionic centers of persons having a susceptible nervous organization are more readily affected by such local irritation than those having a less susceptible organization, but I do not believe that such natural susceptibility is necessary in order that this train of symptoms may be started.

The neurotic habit, as it has been termed, is therefore imaginary, and not a necessary factor in the evolution of this affection; but, with the continuance of the affection, a neurosis, as above explained, is developed that is as much secondary to the primary disease in the nose as the nervous disturbance resulting from an abscess in the ear is secondary to a diseased tooth that may have been the direct cause of the abscess by the irritation of the otic ganglion. Hack recognizes this factor when he says: "It certainly can not be determined, *a priori*, how many of the symptoms may be attributed to a neurotic condition, for, in not a few cases, the neurasthenic symptoms may be secondary, produced by the depressing influence of hay-fever attacks."*

Even in choreic affections Dr. Jacobi observes that "there is not necessarily a direct connection between these irregular choreic symptoms of local origin and general neurosis—at least, the former do not depend upon the latter." †

As this ganglionic involvement continues, the patients become susceptible to minor irritations from sources quite different from those which were at first required to excite an attack. This is shown by the fact that in every case the patient soon became susceptible to the inhalation of lesser irritants throughout the year, which before the onset of his hay fever would have had no effect whatever upon him.

An engorgement of the turbinated bodies that may be the result of an irritation reflected to the nose from a diseased tooth or a diseased ear, can with propriety be termed a "vaso-motor coryza," but is not to be classed with the affection termed hay fever. This affection is one distinctly excited by irritation applied to some portion of the lining membrane or tissue of the respiratory track, and taken there in the inspired air. That this is the invariable direction from which the irritation comes is shown by the fact that in every instance all the phenomena will cease immediately on the removal of the patient to a place where the air is entirely free from all foreign substances, no matter how hot the atmosphere or bright the sunlight. The local irritants that are carried in the atmosphere during the summer months are numerous, but it is unquestionable that the most virulent irritant to this diseased nasal tissue is the pollen or spores of plants, the pollen of some plants being more irritating to one individual than to another, and *vice versa.* Why this is so we do not know. It is according to an unexplained law, which, if we knew, would explain why some foods, medicines, etc., can be taken by some persons with the happiest results, while to others they are decidedly poisonous. It is a significant fact that, with the appearance of frost, the active symptoms of this affection cease. The only conclusive explanation of this is that the exciting cause is a vegetable substance which the frost affects by destroying its virulence and rendering it inert.

The conditions of temperature or sunlight are not direct excitives of attack; where they aggravate the attack it is by lowering the resistance of the person to the action of the irritant, in the same manner that, as we lessen the resistance to a galvanic current, the electrical action becomes correspondingly stronger.

No small amount of the relief obtained at sea-side or mountainous hay-fever resorts is due to the bracing effect of the atmosphere and changed mode of living, which simply increase the inhibitory force of the whole system, as well as to the comparative freedom from dust, pollen, and other irritating substances. The relief during the attack that is often afforded by drugs, or even, as in some cases, by a single dose of opium, is due more to the inhibitory effect of the drug in arresting the transmission of the irritation than in the benumbing of the local sensibility.

Mental emotions have a marked effect on the inhibitory action of the system, and especially on the part on which the mental effort is concentrated, and have the same effect on the vascular control of the part as irritation of the part—that is, to dilate the capillaries and increase the vascular supply. In this manner the connection between the mental association of a hay-field or roses and a coryza is accounted for.

The direction in which this irritation may be reflected or carried is in every instance, like the electric current, in the line of the least resistance. If one set of ganglia is weaker and has less inhibitory power, it is in that direction that the irritation will be transmitted. Thus, in one instance the irritation may be expressed in a supra-orbital neuralgia, hemicrania, or megrim; in another, in facial spasm, choreic symptoms, or epileptiform seizures; while in others it may find expression in a coryza, a pharyngitis, a laryngitis, a bronchitis, or in sneezing, cough, laryngeal spasm, or asthma.

We come now to perhaps the most interesting and important part of the subject—the question of the nature of the treatment, and the success attending it, for, without the latter, our other studies are without value.

The only rational and successful treatment of this affection is to restore the parts involved to a normal condition.

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* "Ueber Catarrhus autumnalis und Heufieber," "Dtsch. med. Woch.," xii, 1886, p. 143.

† "Am. Jour. of the Med. Sci.," April, 1886, p. 518.

If we find a preponderance of local disease in the nose, we must of course restore the nose to a normal condition. If we find a limited amount of disease in the nose, but the resistance of the system so lowered from any other cause as to permit a ready transmission of the irritation to the nerve-centers, we must of course restore the system to a normal condition, and thus increase its resistance to local irritation. In some instances in which the irritation of the nose is slight and of short duration, the use of bromides and of the so-called nerve tonics, or a sojourn at a sea-side or mountain resort, will increase the inhibitory force sufficiently to give entire relief. In some cases of this kind where the affection is slight, the use of cocaine in benumbing the terminal filament of the nerve-fibers—thus cutting off the local irritation in the nose—is sufficient to arrest an attack. The effect of cocaine, however, in nearly all cases is merely temporary, for, as soon as the effect is gone, the symptoms return with renewed vigor from the fact that the secondary effect of cocaine is in nearly all cases that of a slight irritant.

In a number of cases in which I have resorted to the use of cocaine, when patients have consulted me during the attack, the relief was almost instantaneous, but unfortunately the application of the drug must be frequently made, and in sufficient quantities to produce some constitutional effect, and, as this effect is depressing to the system in a marked degree, its use during the entire hay-fever period can not be continued.

In the majority of cases there is so much local disease in the nose that no amount of tonics can increase the inhibitory force of the system sufficiently to overcome the affection. The only way to effect a radical cure in these cases is to remove by local treatment the conditions in the nose, and in other portions of the respiratory tract that have become secondarily involved, which render the individual so highly susceptible to local irritation.

The plan which I have followed in the main has been to remove the redundant tissue in the nose by the cold-wire snare before employing other agencies; then to correct any deflections of the septum and to remove all bony outgrowths; next with a probe to seek out sensitive areas and cauterize them with chromic acid or destroy them with the galvano-cautery. The plan of the superficial alteration of the nasal mucous membrane by the galvano-cautery, which is advocated by Dr. Sajous,* has not given me the satisfactory results he claims for it. It has been by means of deep cauterization that I have obtained the best results. I do not wish it to be understood that I recommend the wholesale destruction by the galvano-cautery of all the tissues of the nasal passages that may contain limited sensitive areas, whereby unnecessary cicatrices may be caused, and, as Dr. Cohen † very justly remarks, thus prepare the ground for less benign diseases in the future. The inordinate desire which is often shown to completely exterminate with the galvano-cautery every turbinated body possessed by persons subject to hay fever should be condemned, not only on account of the irreparable damage that is done, but because, as Dr. Beverley Robinson * remarks, structures are often removed which are in reality inoffensive.

There are two plans of deep cauterization which I adopt according to the requirements of the case. When there is connective-tissue hypertrophy, I make linear incisions with a fine cautery point well down to the bone. In this manner we cut off the sensitive nerve-filaments, and at the same time leave ample mucous membrane to spread over the surface destroyed, and, as the deep cicatricial tissue contracts, the remaining tissues are firmly drawn down over the turbinated bone, whereby both the sensitiveness and the vascularity are obliterated.

Another plan, and one which I adopt in cases where there is great distensibility of the cavernous sinuses without interstitial hypertrophy, is to attack the part when in a distended condition, employing a long and very fine platinum point, and thrusting it when heated deeply into the tissue. We can then sweep the point about to any desired extent and destroy the cavernous sinuses underneath by making but one small opening in the surface where the point is introduced. The septum is dealt with according to the plan of making linear incisions when hypertrophy exists, and the destruction of limited areas found to be sensitive. But for the *superficial alteration* of the mucous membrane, chromic acid is by far preferable to any other agent. Not only should every portion of the nasal cavity receive the requisite attention, but the condition of the pharynx, larynx, and bronchia must not be overlooked. It is not uncommon that enlarged tonsils will keep the turbinated bodies in a condition of chronic hyperæmia. Dr. Jacobi very truly says: "Many a rhinitis has to be treated in the pharynx, and many a pharyngitis in the nose; and both may never get well unless the enlarged and abnormal tonsils have been removed or resected." †

It is often also that the neglect to cure a chronic bronchitis accounts for the reappearance of hay asthma after the susceptibility of the nasal passages to irritation has been entirely removed.

The result attending these cases is as follows: 36 of the 44 patients have been cured; 4 were not relieved owing to imperfect treatment, due to the neglect of the patient; and 4 I have lost sight of. Of the 36 who were cured, 20 have remained exempt from the first year of treatment to the present time—1 of them for 9 years, 1 for 7 years, 1 for 5 years, 2 for 4 years, 6 for 3 years, 5 for 2 years, and 4 for 1 year. The remaining 16 of the 34 had some slight irritation about the nose and eyes on hot, dusty days during the first season following treatment. This was found to be due to some remaining disease in the nose, the treatment of which has rendered them exempt since that time.

From a study of these cases I am led to the following conclusions:

1. That all cases of hay fever have their initiatory lesion in a diseased condition of the tissues of the nasal fossæ.

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* "N. Y. Med. Jour.," Dec. 6, 1884, p. 629.

† "Am. Jour. of the Med. Sci.," xci, 1886, p. 310.

* "Med. News," xlix, 1886, p. 59.

† *Op. cit.*, p. 522.

2. That the disease of these tissues induces, in the ganglionic centers connected with them, an abnormal activity, which is reflected to other tissues and organs.

3. That the sensitive areas in the nose are not confined to any particular locality, and that there are no zones in the nose that when irritated invariably produce the same manifestations.

4. That the direction in which the irritation is reflected is, like an electric current, always along the line of least resistance, and that from the same region it may be reflected in one direction at one time, and in the opposite direction at another time.

5. That the disease in the nose may produce disease in other portions of the respiratory tract, which may become independent centers of irritation.

6. That the affection distinctly recognized as hay fever is due to the effect of a local irritant, brought by the atmosphere in contact with the sensitive regions of the air-passages.

7. That the affection is not *per se* a neurotic disease, nor necessarily associated with a nervous temperament, although persons having a highly nervous temperament or a neurosis are much more susceptible to the influence of a local irritant.

8. That the neurotic condition which is often regarded as a cause of hay fever is itself often developed as the result of the local irritation.

9. That by carefully correcting all abnormal conditions found in the nasal or other portions of the respiratory passages, and the use of such systemic medication as may be required to remove any associated or consequent general derangement, we need not fail to cure hay fever.

DOES PULMONARY CONSUMPTION TEND TO EXTERMINATE THE AMERICAN INDIAN?

A REPLY TO DR. WASHINGTON MATTHEWS, OF THE UNITED STATES ARMY.

By THOMAS J. MAYS, M. D.,
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Notwithstanding that I possess neither fitness nor taste for entering the arena of controversy, I am compelled to reply to the strictures made by Dr. Washington Matthews in his last article on "The Study of Consumption among the Indians," published in the "New York Medical Journal" for July 30, 1887, and which are to stand for an answer to my paper on the same subject, and published in the same Journal for May 7, 1887.* I should have hesitated very much before taking this step if Dr. Matthews had not shown a disposition to magnify the shortcomings of my paper, while at the same time he put forth the most zealous efforts to conceal, or to close his eyes to, the naked defects and fallacies in his own work, and to which I could, and probably should, have called attention in my previous communication. The shortcomings of which my paper is guilty were in most instances frankly acknowledged as being the necessary outcome of the difficulty of the undertaking, and for those not thus acknowledged—especially for the historical error of substituting the name of Hidalgo, a Mexican revolutionist, for that of Guadalupe Hidalgo, a town of Mexico, and which was pointed out by Dr. Matthews—I am willing to share the humiliation which naturally belongs to the effects of such mistakes. In my behalf I may be permitted to state, however, that in my original notes from which the table was compiled it is stated that the Mission Indians were received "by treaty with Mexico in 1848." How the transposition occurred and was overlooked I am unable to say.

Any work is always best judged by an examination of the methods which were employed in performing it. Both Dr. Matthews and myself endeavor to ascertain whether pulmonary consumption increases or decreases in the main among the American Indians. He maintains that the best method for getting at the truth is to proportion the number of deaths from consumption to a thousand deaths from all known causes—the deaths from all known causes then being his standard for comparison. Now it is needless to state that any standard which is used for comparison, and which is worthy of the name, must be as free from variation as possible. Obviously the deaths from all known causes can not be such a standard; for if the death-rate from all other causes is high, the consumption-rate must be low, and *vice versa*. Such a fluctuation in the general death-rate may, on account of the presence or the absence of epidemics, occur every year, and *his* consumption-rate would, therefore, be as shifting as the "lovely fickleness of an April day."

I employed the method which is in general use by statisticians—viz., that of proportioning the number of deaths from consumption to the number living. The number living is almost constant, and any increase or decrease which may take place in the population is gradual and can be accurately computed; hence it always serves as a reliable standard for comparison. Of course I was not able to compare the number of deaths from consumption among the Indians, for the simple reason that the Indian reports, whence I obtained my statistics, do not specify the number of deaths from consumption, but only give the number of Indians who suffer from this disease during each year. But I think it must be admitted that there necessarily exists some definite relationship between the number sick of a disease and the number dying from it, especially in a disease like consumption, which is so generally fatal; therefore, in the absence of the death reports, I can see no legitimate reason why I am not justified in instituting a comparison between the number of cases of consumption and the population. Dr. Matthews admits that "this method would undoubtedly be the best if it were possible to obtain data to sustain it," and he says that at the beginning of the investigation it occurred to him, but he "soon abandoned it on account of a lack of material to work with." It is very difficult to understand why—with the death statistics of the Indian Office at Washington, to which he had private access, and which are withheld from the public, and with the population of each Indian reservation contained in the published reports—he should have abandoned it for this reason.

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* It should also be stated that my paper was written as a rejoinder to Dr. Matthews's first paper on this subject, and which also appeared in this Journal for January 1, 1887.

As further evidence of the unreliability of Dr. Matthews's researches, I wish to call attention to the refreshing manner in which he compares his Indian consumption-rate with the general consumption-rate (meaning thereby the consumption-rate among the white or civilized population) of Dakota and Washington territories, and of the States of New York, Michigan, and Wisconsin. Is he really willing to deceive himself to the extent of believing that, in any of the States and territories mentioned, there is even a pretense made to collect reliable mortality statistics in the rural districts, independent of the larger towns and cities? And if not in the rural districts, what use is there in comparing and in wasting words on the general consumption-rate of a State which exists nowhere except in the imagination of the rustic census-taker who comes around and makes a guess at it every decennium?

Now, in regard to the details of Dr. Matthews's statistics. He makes the general tabular statement, which is entirely unsupported by any given data, that among the Indians living in the older States of New York, Wisconsin, and Michigan—States in which the Indians have been longest under the influence of civilization—the consumption-rate is far in excess of what it is among those in the younger States and territories. Beyond this he only gives three instances throughout the whole paper in which he attempts to show the same relative infrequency of consumption among the uncivilized Indians, and, moreover, that the disease increases among these people as they advance in civilization. The first of these instances is a comparison between his consumption-rate of the Indians of Santee and that of the Indians of Pine Ridge and Rosebud agencies. The Indians of Santee Agency are the most civilized of the three, and, according to Dr. Matthews, they should have the highest consumption-rate. This is partially true, for in the fiscal year of 1875 the consumption-rate of the Santee Indians was 631; that of the Pine Ridge, 96; and that of the Rosebud, 476. In 1880 the consumption-rate of the Santee Indians was 294; that of Pine Ridge, none; and that of Rosebud, 388. The Rosebud Indians, therefore, although a wilder tribe, show a higher death-rate from consumption in 1880 than the Santee Indians; but I must credit Dr. Matthews with acknowledging this weak point in his argument.

The second instance which he has selected is the report from the Fort Berthold Agency. He says: "The rate of Fort Berthold, computed from the records of the Indian Office, is as follows: For the fiscal years ending June 30, 1875, 41; 1876, 538; 1877, 500; 1878, 250; 1879, 133; 1880, 187. Here we see that the rate of 1880 is considerably greater than that of 1875, but that during three of the intermediate years the rate is higher than in the last year." Let us examine these data and ascertain whether they prove what Dr. Matthews thinks they do. Apparently they do, but really they do not, for, although the rate for the last is higher than for the first year, these figures do not, as he assures us, show that pulmonary consumption has increased among these people during this time, but absolutely demonstrate that it has diminished nearly 50 per cent. The average consumption-rate for the first three, or half the whole number of given years, is 357·33, and that of the last three years, or the latter half, is exactly 190—showing, according to his own statistics, that the death-rate from consumption for the last three years was only a little more than one half of what it was during the first three years. It is very obvious that, by placing too much confidence in the apparent value of figures, the doctor has, in this case, proved more than this theory can comfortably endure.

The next and last instance which he gives is the consumption-rate among the Cheyenne River Indians, which, it must be admitted, sustains the doctor's proposition.

To sum up, then, two out of the three only instances in which original data are given are thus shown to lend no support whatever to Dr. Matthews's view—in fact, point the other way. I have, however, already occupied too much space and wasted too much time in discussing statistics which are without the slightest value from a scientific or from any other standpoint; and I shall continue to cherish the belief that my statistical table is in general correct, in so far as it shows that the consumption-rate of those Indians living in New York, Michigan, and Wisconsin, who have been longest in contact with civilization, is lower than that of those Indians of the Cheyenne River, Pine Ridge, Fort Hall, Fort Berthold, Santee, Rosebud, and other agencies who have a more westerly residence, and who are just now suffering from the baneful effects of the first clash between civilization and savagery. At the same time I beg to state that, if Dr. Matthews possesses the statistics of the number of deaths from consumption among the Indians of those States and territories which he mentions in his first paper—*i. e.*, if they cover a period of five or ten years, and are in such a shape that legitimate comparisons can be drawn—their publication is very much to be desired. They would make a most interesting and valuable addition to the mortality statistics of the Indian Reports, and would, if properly computed, effectually settle the dispute between him and myself. Until such a system of reckoning shows that I am in error, I shall believe that I am right.

August 10, 1887.

ON CERTAIN MEASURES FOR THE RELIEF OF CONGESTIVE HEADACHES.*

By WILLIAM C. GLASGOW, M.D.,
ST. LOUIS, MO.

One of the most prominent, and at times the most distressing, symptoms of congestion of the nasal chambers and sinuses is the pain and the sense of constriction of the forehead experienced during the attack, lasting in the acute cases for a few hours; in the more chronic forms it may remain for days, or even weeks. In some cases there is a periodical return, after a longer or shorter interval, the life of the sufferer is rendered almost intolerable, and he is unfitted for any mental or physical activity. If we analyze this pain, we shall find that it is distinctly of two kinds. The one kind gives a dull, heavy sense of fullness, with occasional throbbing over the temple. The other is the sharp, lancinating pain so generally recognized as neuralgia.

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* **Read before the American Laryngological Association, at its ninth annual congress.**

At times both varieties of pain are present in the same case; in others they are entirely distinct. In the one case we recognize a fullness or local increase of the tension of the vessels; in the other a distinctly disordered nerve action. Both varieties are often due to the same pathological condition of the nasal chambers, and the relief of the one is often followed by a cessation of the other. I do not, however, in this paper propose to consider the nasal reflexes which are now attracting so much attention, and which are distinctly neuralgic in character, but the pain and sense of constriction arising from an over-distension of the vessels.

This disturbing cause is seen in the frontal headache, browache, or so-called catarrhal headache, radiating from the root of the nose; it may be limited to the forehead; it may be felt as a dull, throbbing pain in the temples; it may give rise to intense dull ocular pain, or, extending over the head, it may be felt in the occipital region, occurring frequently from cold or exposure; we also find it often conjoined with certain vaso-motor disturbances of the mucous membrane. It is frequent at the menstrual epoch, coincident with a turgescence of the cavernous bodies, and it is the cause of many of the so-called nervous headaches, or uterine headaches, with which a similar condition of the cavernous bodies will be found. If we examine the nasal chamber during the attack of congestive headache, we shall find the cavernous bodies in a state of tension; they may not be greatly swollen or enlarged, but to the eye the condition of the mucous membrane is that of tension and fullness. The degree of tension corresponds in a measure with the severity of the headache.

A few years ago I treated these cases with hot alkaline sprays, gently applied, and the use of hot fomentations, combined with the use of the usual constitutional remedies. This mode of treatment has not been altogether satisfactory, and during the past four years I have substituted for it the local abstraction of blood, for which I can allege unqualified success. In many cases there is experienced an immediate relief of the pain, and in all there is a sense of the loosening of the constriction. A simple bleeding may relieve the headache, or it may have to be repeated in a day, a week, or a month. I have seen but few cases which were not permanently relieved by a bleeding repeated from two to six times.

To produce the bleeding no cut is required. The cavernous body is simply pricked, and the blood flows freely until the excessive tension has been reduced; then it ceases. The amount of blood drawn rarely exceeds one ounce, in many cases it is less than this, and in some cases a single drachm of blood removed will give the requisite relief. In cases of excessive congestion the flow will equal several ounces before it ceases, the quantity of blood being dependent on the distension of the vessels, and this corresponds with the severity of the symptoms. From a normal membrane, or where there is no excessive vascular distension, scarcely a drop of blood will flow from a simple puncture of the membrane such as would produce a free flow in this pathological condition. In cases where the mucous membrane is thickened, a sharper puncture will be necessary to bring blood. A lance-headed probe may be best used in making the puncture, although a sharp-pointed bistoury, or any pointed instrument, will answer. The probe has the advantage that it does not excite the apprehension of the patients, many of whom become nervous at the sight of a knife, and dread the idea of being cut.

The following are given as types of the cases relieved by this method of treatment, and I feel assured that relief would not have been so prompt under any other mode of treatment:

Case I.—Miss M. F., a nurse, has had persistent headaches for more than a year. They would recur every few weeks, and the attack would continue several days. February, 1886, half an ounce of blood was removed, and this was repeated four times at intervals of ten days. At the last operation the flow consisted only of a few drops; since then she has been entirely free from headaches of this character.

Case II.—T. R., a merchant, has had attacks of intense frontal pain and constriction, accompanied by orbital and supra-orbital neuralgia, for the past eight years. The distress was so great that he was compelled to remain in bed during the paroxysm, which would usually last four days. As a rule, the paroxysm would occur every three or four weeks. He had tried all manner of drugs and many physicians, but had obtained no permanent relief. The paroxysms occurred more frequently in winter than at the other seasons. Local depletion was practiced during the summer and autumn of 1885 on the commencement of the paroxysms; relief of the throbbing pain and the tightness of the head was always immediate, the neuralgic pains continuing a few hours and then disappearing. During the past winter and spring he has had but one attack, and this promptly subsided after a single bleeding.

Case III.—Dr. B., a prominent and most intelligent physician of a neighboring town, has for many years been a martyr to congestive headaches and neuralgia. He has suffered so much that he is greatly broken in health and has found great difficulty in continuing his practice. His pains were frontal, with throbbing in the temples, and a dull, heavy aching pain at the occiput. These were frequently combined with severe orbital and supra-orbital neuralgia. When the attack came on he was compelled to give up his duties and to remain in bed; the paroxysm lasted for three to five days. Dr. B. was bled some ten times during the autumn and early winter. Since then he has been entirely free from his headaches and neuralgia, although he has suffered with laryngitis, and he has had a severe attack of bronchitis and rheumatism. This last illness was brought on by exposure during a long night ride in the country, and he states that it would, in former years, have certainly brought on his headache and neuralgia.

Case IV.—Miss L. E. has had, as a rule, at the menstrual epoch, a severe frontal pain with constriction. The flow is excessive and lasts usually five or six days. She called on me in January of this year, complaining of an intense headache. A local bleeding, which was repeated the next day, entirely relieved the head, and she stated the flow was less than it had been for many months. The next menstrual period passed without a headache, and she reports that they have been absent to the present date.

Case V.—Miss S. G., a sufferer with sick-headaches. A local bleeding during the paroxysm gave quicker and greater relief than had ever been attained by the use of numerous remedies which had been tried.

CASE VI.—G. W., a merchant, a sufferer from hay-fever, came to my office during a paroxysm with a most intense sense of constriction of the head and a blinding headache. His face was swollen, with congested eyes and lacrymation. He presented on the whole a most perfect picture of the misery of a congestive headache and the congestive stage of hay-fever. The puncture of the cavernous body allowed the blood to gush out, and the flow continued until some three ounces had passed. Relief of constriction was immediate, the pain was greatly lessened, and the next day he was able to return to his business.

In bringing this remedy for the relief of congestive headaches before you, I may be recommending what some of you have already practiced. Now, if this should be the case, I think the practice is of such value that an emphatic indorsement is justifiable. Our forefathers undoubtedly made use of it, perhaps not in this manner, but certainly they had the same idea when leeches were applied to the temples or to the nape of the neck. A somewhat similar practice was recently related to me by an old Southern planter, who told me that in the days of slavery, whenever a slave complained of a headache, he would run his penknife into the tip of his nose and the headache would be relieved.

THE PULMONIC FORM OF CEREBRO-SPINAL MENINGITIS.

By REYNOLD W. WILCOX, M. A., M. D.

ABOUT April 1st of last year a twelve-year-old girl was brought to the hospital of a large institution for children, complaining of chilly sensations, severe frontal headache, neuralgic pains in the back of the neck of a boring character, some vomiting, pains in the spinal column, and great weakness, yet was restless; also constipation in spite of vigorous treatment. She was dull, her skin was very sensitive to the touch, tongue coated with whitish fur, pulse 75, temperature taken in rectum 100° F., pupils widely dilated, respiration 22, labial herpes as well as a small patch on the left index finger. The next day the temperature ran from 98·5° in the morning to 103·7° in the afternoon; the *tache cérébrale* was well marked, head thrown back and boring into the pillow, headache very severe; the pulse now was 94, of fair volume. The physical examination of the lungs showed a few coarse râles over the larger bronchi, but there was no dullness nor expectoration, and but little cough. The daily range of temperature for the next three days was 102° to 105°, the pulse keeping about 100; the other symptoms remaining unchanged, except that the cutaneous hyperæsthesia became still more marked; the legs were drawn up. On the tenth day the extraordinary rectal temperature of 110° was reached, which had fallen to 107° when she was seen an hour later; pulse 124; roused with difficulty. Two days later the temperature ranged between 98° and 106°, pulse 108; then for two days the range was 101° to 105°, with a pulse of 120. Now dullness over both lower lobes of the lung posteriorly was found with fine moist râles. From this time on there was a gradual amelioration of symptoms until the seventeenth day, when the temperature remained at about normal, with a pulse of 100 to 116, but the patient was very apathetic. Now convalescence was established, and she was discharged, completely well, on the twenty-fifth day.

I do not regard either the early bronchitis or the hypostatic pneumonia as unusual, and it seems fair to call this a nearly typical case of cerebro-spinal meningitis.

In marked contrast, however, are the four following cases, in two of which the patients came to the hospital two weeks, and the remaining two in four weeks, from the date of entrance of the patient whose case is detailed above:

CASE I.—A boy of thirteen came under observation after a chill, with a temperature of 104·5° and pulse of 130. He had suffered from violent frontal headache for the past few days, pains in his back, regurgitation from the stomach without nausea, pain about the umbilicus, vertigo, especially on standing, and great weakness. His skin was so sensitive that he could not bear the weight of the bedclothing; he was constipated, his pupils were contracted, tongue heavily coated, herpetic patches on the right ear, conjunctivæ red and injected, *tache cérébrale* well marked. His temperature on the fifth day fell to 102° and pulse to 108, when he began to be troubled with considerable cough. Physical examination showed harsh respiration and coarse mucous râles over right apex; not much dullness, but voice sounds were transmitted with unusual intensity. The nervous symptoms had already somewhat diminished, and from this time the patient improved, and was considered to be convalescent on the twelfth day.

CASE II.—A boy of twelve had complained of chilly sensations for three days, violent pains in back and sides, vomiting without nausea, severe frontal headache, pain in loins and spinal column, restless, skin very sensitive, diarrhœa. His pupils were widely dilated and sluggish, temperature 103°, pulse 106, tongue coated, *tache cérébrale* very well marked, respiration 36, left ear very red and hot, labial herpes. Physical examination showed harsh respiration and sonorous râles on cough. He passed his water involuntarily. The next day his temperature ran to 107° and pulse to 140, head was thrown back, legs flexed upon the abdomen, crying out, and roused with difficulty. During the next four days his temperature ranged from 101° to 105°, and his pulse 112 to 124. On the ninth day his pulse was 102, very compressible, intermittent; the cough and expectoration were more free and there was some vomiting. He was continually picking at the bedclothes. On the eleventh day physical examination showed slight dullness on percussion to the lower border of the third rib on the right side, with high-pitched respiration over the same area; also increased vocal fremitus and bronchophony. The tussive signs were coarse mucous râles over trachea and primary bronchi; fine dry râles over dull area, not well marked on deep breathing. At both bases subcrepitant râles; also dullness in interscapular space, with marked bronchial breathing. These signs gradually disappeared, and convalescence was established by the twentieth day.

CASE III.—A ten-year-old boy was dull and apathetic, complained of pain in the back of his head, lancinating neuralgic pains in back of his neck, very restless, annoyed by the weight of his clothing. His pupils were contracted, tongue clean, notwithstanding his constipation, pulse 100, temperature 101°, respiration not accelerated, strabismus, gurgling in iliac fossa. He had also had some nose-bleed. On the fifth day he became delirious, respiration was 20, pulse 120 and very weak, temperature 103·5°, no pulmonary signs nor symptoms. On the seventh day, however, I found dullness on the right side of the upper chest, coarse transmitted râles, local fremitus increased, knee jerk exaggerated. The next day there was marked opisthotonus; cries out in his stupor. His symptoms gradually improved, and pulse and temperature returned to the normal, and he was considered to be on the rapid road toward recovery on the eighteenth day.

CASE IV.—A boy of eight had felt chilly for two days. He complained of a sharp pain in the back of his head and neck, and had vomited without much nausea. He had also pain in the spine, was restless when lying down, yet was unable to walk or stand, even when placed on his feet; had some diarrhœa. His temperature was 101°, pulse 90, patellar reflexes exaggerated. There was no *tache cérébrale;* his pupils were contracted, and responded sluggishly to light. The fourth day showed a pulse of 90 and temperature of 102°, slight dullness on right side from apex to third intercostal space in front; behind, dulless over corresponding area more marked over inner border of upper lobe; respiration puerile; inspiration prolonged and high-pitched. The tussive signs were dry, low-pitched râles over larger bronchi, firm subcrepitant râles behind, vocal fremitus increased. The pulse and temperature showed many irregular variations, but the symptoms gradually subsided, and he was believed to be convalescent on the fourteenth day.

In the consideration of these four cases the pneumonia from entrance of food into the air-passages (von Ziemssen), and that of hæmic stasis from orthotonos (von Ziemssen), can be excluded. Three conditions must be discussed: First, whether these cases are merely pneumonia, with severe nervous symptoms, such as might arise from simple cerebral congestion—the suggestion of Fagge; but this view is negatived by the long duration of the nervous symptoms, which were far more than simple cerebral excitement; or, secondly, that these cases may have been pneumonia, complicated by meningitis. On the contrary, we have the fact that the meningeal symptoms were all primary, and the pulmonary were secondary, the reverse usually obtaining (Jürgensen). So Heguenin states that, if the meningitis is a complication, there are never any changes in the skin or other concomitants of cerebro-spinal meningitis, nor was the pulse slow in any of his cases. Further, in the cases given above, as the nervous symptoms improved, the pulmonary appeared. Finally, are these cases those in which both the pulmonary and meningeal symptoms are due to the same cause? This I shall endeavor to show to be the case.

The title of this paper is due to Webber, who called attention to the fact that there existed a variety of cerebro-spinal fever in which the cerebro-spinal axis was but slightly involved, and the brunt of the disease fell upon the respiratory organs.

Various theories to account for the occurrence of the cerebro-spinal meningitis have been advanced, but none covered the whole ground until the recent work in bacteriology, which, bringing new methods of investigation into common use, will not only account for the meningitis itself, but the particular form we have now under consideration. Let us review the observations concerning the micrococcus. Leyden found in the fresh cerebro-spinal fluid of a sporadic case of cerebro-spinal meningitis oval micrococci, generally diplococci, but rarely in small chains, resembling those of pneumonia. Nauwerck gives the same description, and states that the same organisms exist in alveolar exudations, in false pleural membranes, and in the pleuræ; such, also, is the description of Ughetti. Marchiafava and Celli, in two cases of epidemic meningitis, found oval micrococci, isolated or as diplococci, never in chains. Klebs found the same organisms in the cerebro-spinal fluid, pulmonary alveoli, and bronchial mucus. So also Cornil and Babès, Foa, Senger and Weichselbaum, and Bordoni. Uffreduzzi arrived at the same conclusions. These micrococci were found by Friedländer and Talamon, Netter, Griffin, and Cambria during life in the blood; by Ziehl in the sputum in pneumonic cases; by Giles, Salvioli, and Zäslein in both sputum and blood; by Leyden in the exudation and in the tissue of the pia mater; by Marchiafava and Celli, partly free and partly imbedded in the white blood-corpuscles, rarely in the endothelial cells of the cerebral blood-vessels, also in the tissue of the pia; by Ughetti in the sero-purulent fluid of the ventricles; by Weichselbaum in the cranial sinuses; by Netter in the circumvascular spaces in the brain; by Nauwerck in the tissue of the pia and in the lumen of the vessels. To produce cerebro-spinal meningitis, the micrococci must have access to the brain, and indeed they have been found to exist by Netter in the nasal fossæ, bone sinuses, and ears; by Sternberg and Fraenkel in the buccal cavity; by Thost in the mouth and nasal fossæ. In cases of pneumonia they have been found in the posterior pharynx. Cornil has found them in the crypts of the tonsils. I regret that at the time these observations were made I had not had any practical experience in bacteriological methods, and, consequently, did not make any studies of the micro-organisms.

Cultivations of these organisms have been successfully made by Giles from both blood and sputum, by Zäslein from the blood, and also by Fraenkel, Senger, Foa, and Klebs.

The results of inoculations have been equally satisfactory. Salvioli and Zäslein, with cultivations from blood, have inoculated rabbits and obtained pneumonia with micrococci. Netter injured the brains of animals with the thermo-cautery, and injected purulent fluid from a mouse with pneumonia, and death resulted from meningitis with an abundance of micrococci. Italian observers have injected the micrococci under the membranes of the brain and have produced meningitis. Klebs transmitted pneumonia to animals from cultivations from cerebro-spinal fluid and pulmonary exudation. The constant association of the pneumococcus with pneumonia, as noted by Klebs, Ebarth, Koch, Leyden, and Friedländer, is now, I believe, generally accepted.

The micrococcus has undoubtedly easy access to the lungs and can be carried through the blood, where it has been found, to the central nervous system. I have noted above the presence of these organisms near to the cranial cavity. Confirmatory observations are those of Strümpell, who noted remarkable loss of smell in the premonitory coryza of children sick with cerebro-spinal meningitis. Weigert has noted suppurative changes in the upper nose. Leyden and Senger believe in the micrococcic nature of a certain number of cases of meningitis following otitis, and even that the otitis itself may be due to the same cause. Baginsky has reported cases of otitis with severe meningeal symptoms, with pneumonia, the whole, he believes, due to micrococci. Steiner confirms Streckeisen's observations in regard to the relationship of otitis and pneumonia. Eichhorst thinks that the micro-organisms may also be transported by the lymph-vessels. So much, then, is the evidence as to the way of access of these micro-organisms to the nervous system. As regards cerebro-spinal meningitis and pneumonia, taken separately or together, we must regard Koch's postulates as demonstrated.

The clinical evidence as to the occurrence of cerebro-spinal meningitis and pulmonary disease is equally widespread. Jürgensen notes that in epidemics of cerebro-spinal meningitis, pneumonia cases are often complicated by it. Immermann and Heller, in post-mortem examinations in thirty cases of death from pneumonia, found evidences of meningitis in nine, and this was during an epidemic of cerebro-spinal meningitis. Githens, in ninety-eight cases of cerebro-spinal meningitis, found nine cases of pneumonia, and seven of bronchitis, and says that "many had more or less tendency to irritation of the air-passages."

De Willich notes a case where the symptoms were meningeal until the fourth day, when pneumonia became evident. Lewis Smith also cites a similar case where the diagnosis was not made until the sixth day. Rothman cites analogous cases. Lewis Smith has remarked the prevalence of pneumonias of an ataxic type during epidemics of cerebro-spinal meningitis, also sometimes of pharyngitis. Bascome made the same observations of the epidemics of the sixteenth century. It is also stated that the influenza often precedes meningitis with or without pneumonia. In the German epidemic of 1864–'65 one half of all patients with cerebro-spinal meningitis had pneumonia also. In the French epidemic of 1866, cases of amygdalitis were very common. In the Philadelphia epidemic of spotted fever phenomena of pulmonary and bronchial inflammation were frequent. Dreschfeld saw two children of the same family, one sick with pneumonia and the other with meningitis.

It is probable that pneumonia is more frequent than cerebro-spinal meningitis because the micrococci have easier access to the lungs. Netter's observation that, if the brain had been previously injured, meningitis was more easily produced by injection of micrococci, is confirmed by clinical evidence. One of Immermann and Heller's patients was insane; one third of all who died were alcoholic subjects. Of Barth's cases, three out of four were alcoholic. Grobe's patient had suffered from great disappointment.

So, if the brain has been before diseased, it is the organ of least resistance, and cerebro-spinal meningitis is likely to occur. Nearly all observers note that the onset of the disease follows severe mental or nervous strain.

I believe that we may agree with Bozzolo and Barth and Greenfield and M. Sée and Netter in concluding that both cerebro-spinal meningitis and pneumonia are due to the same micro-organisms, the relative frequency of the diseases being determined by the factors above noted. The grounds for this belief are the morphological identity of the micro-organisms, their habitat in living and dead bodies, the results of cultivations and inoculations, and the clinical evidence of the occurrence of the two diseases together.

That the four cases cited above are cases of the pulmonic form of cerebro-spinal meningitis is shown by the precedence of an undoubted case of cerebro-spinal meningitis, and by the meningeal symptoms being too severe for merely cerebral excitement; and, as in the cases of De Willich and Lewis Smith, only as the meningeal symptoms subsided did the pulmonary become marked, thus showing that the brunt of the disease fell upon the lungs.

THE USES AND EFFECTS OF OXYGEN GAS AND NUX VOMICA IN THE TREATMENT OF PNEUMONIA.*

By GEORGE E. HOLTZAPPLE, M. D.,
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Medical literature does not inform us of much advancement having been made in the treatment of pneumonia for some years. I think there are certain agents which, from their physiological effects, should have a place in the armamentarium of this disease. I refer to the use of oxygen gas and nux vomica.

Studying closely the physiological effects of each, and the pathological conditions and clinical phenomena of pneumonia, it seems to me there are stages in this disease when at times both agents are indicated and must be of decided value. The first is necessary to hæmatosis; the second is indicated from its physiological effects upon the respiratory and circulatory apparatus. It is one of the deep respiratory stimulants (A. A. Smith). These effects upon respiration and circulation have been produced repeatedly by administering strychnine or nux vomica.

Clinically, strychnine has been observed to stimulate respiration. If a dose not sufficient to tetanize is administered, it increases the depth and energy of the respirations. It antagonizes respiratory poisons and those morbid conditions of the system which depress the respiratory function. These physiological effects given to us by authorities I have repeatedly reproduced during the last two years. "The same dose mentioned above will also stimulate the cardiac ganglia, the pneumogastric, the accelerator nerves of the heart, the vaso-motor center in the medulla, and the vaso-motor functions generally" (Bartholow). Larger doses will paralyze the very structures that full doses will stimulate. There are stages in this disease when life depends upon stimulating the very structures which I have so far enumerated. The difference of effect depends on the dose administered. It is a powerful remedy and has to be administered with care. Yet, if only half enough is administered and no favorable effects are produced, or if entirely too much is administered and unfavorable effects are produced, it is not the fault of the remedy, but of the one who administered it. According to some observers, strychnine diminishes the amount of carbonic acid formed in the blood.

I am not aware that strychnine or nux vomica was ever administered in acute disease with a view of obtaining the useful effects on the circulation and respiration above enumerated, and the stimulant effects upon the functions generally which must then result.

When hepatization is extensive, the patient craves for oxygen. He may even do so when hepatization is less extensive if accompanied by acute bronchitis with profuse secretion.

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* Read before the York County Medical Society, August 4, 1887.

I have observed this association in a number of cases during an epidemic of influenza. The patient then receiving an insufficient supply of oxygen from ordinary atmospheric air, suffers the effects of unaerated blood. It is only by understanding thoroughly the physiological effects of an insufficient supply of oxygen that we can comprehend intelligently the usefulness of the same, and it is upon this basis that I advocate a further trial of this agent wherever it may be deficient.

Allow me, then, to call your attention briefly to the physiological effects of a deficient supply of oxygen. This condition gives rise to the phenomena of asphyxia. Asphyxia may be slow or rapid. It may occur in disease or in health, when for some reason a normal supply of oxygen is not obtained. Diminution of oxygen causes the respiratory movements to become deeper and more frequent. Both the inspiratory and expiratory movements become exaggerated, more muscles are called into action, and, as the blood becomes more venous, all the muscles which can assist respiration are called into activity. The expiratory movements now become more marked than the inspiratory, and soon all the muscles of the body are thrown into a convulsive struggle of variable duration; the expiratory movement becoming more and more marked, this stage of asphyxia finally terminating in an expiratory convulsion.

Physiologists teach us that these characteristic convulsions of asphyxia are caused by the stimulating action of the venous blood upon the respiratory center in the medulla oblongata. Because these convulsions fail to occur when the cord is divided below the medulla, and because they do occur when all the other portions of the brain above the medulla are removed, it is said to be evident that the medulla is the agency through which they are produced. Some physiologists speak of a convulsive center, but admit that if such exists it must be closely connected with the normal expiratory division of the respiratory center. By suddenly obstructing the flow of arterial blood to the medulla, similar convulsions may be produced. In such an experiment we may observe the stage of dyspnœa followed rapidly by the convulsions of asphyxia, all as the consequence of the respiratory center becoming exhausted for the want of oxygen.

Anæmic convulsions from sudden large hæmorrhages may sometimes be observed, again produced by stimulation of the respiratory center or the convulsive center, if such exists. During the spasmodic stage of asphyxia the nervous system rapidly becomes exhausted, from the violent convulsions and the continued stimulation of the nerve-centers from a lack of oxygen. Following this period of convulsions is one of calm, denoting exhaustion. This period of exhaustion may sometimes be plainly observed in slow asphyxia, such as results commonly from disease, and this must not be mistaken for an amelioration of the distressing phenomena of asphyxia. This condition should, however, never be mistaken. In it the pupils are greatly dilated, unaffected by light; no reflex movements of the lids are produced by touching the cornea—in fact, no reflex movements anywhere can be produced by stimulation of the surface of the body. The muscles are relaxed and quiet. The respiratory pause becomes longer. The respiratory movements which follow now resemble those of normal quiet breathing, and, as far as muscular action is concerned, chiefly inspiratory. For this reason an observer may be mistaken as to the existing condition of a patient by careless examination.

Let us study the physiological effects of a deficient supply of oxygen on the circulation again, with a view of learning the importance of administering it when deficient. As the blood becomes more venous, it stimulates the general vaso-motor center, causing a constriction of all the small arteries of the body, with increased arterial tension, and, as a consequence, the filling of the systemic veins. The peripheral resistance becomes increased. This indirectly stimulates the contractions of the heart, but, on the other hand, is a direct obstacle to the heart in propelling its contents. The heart at the same time beats less frequently, and becomes weaker from the stimulation of the venous blood upon the cardio-inhibitory center in the medulla, and from the inhibitory action of the venous blood upon the heart itself. The stimulating effect of the venous blood upon the respiratory center causes increased respiratory movements. These favor the flow of venous blood to the heart, which, in consequence, becomes more and more distended. As the blood flowing through the coronary arteries becomes more venous, the contractions of the heart become more and more feeble; at first the energy may perhaps be increased, but soon the heart beats less frequently and with much less force. This I have observed more than once. These phenomena result from an insufficient supply of oxygen in disease or in health. From the infrequency and feebleness of the heart's action the blood accumulates in the heart, lungs, and great veins. The heart is in danger of paralysis from overdistension, all as the result of a lack of oxygen.

Observe, then, the conditions which favor the accumulation of blood in the heart. When the supply of oxygen is abnormally diminished, the peripheral resistance is increased. The heart-beats are more infrequent, and at the same time weaker than normal. The respiratory movements are greatly increased, favoring a larger flow of venous blood to the heart in its feeble condition. Under these circumstances the heart, while beating with diminished frequency and vigor, should beat with increased frequency and vigor for a threefold reason—namely, to overcome the increased resistance in front, to expel the blood as fast as it enters the heart, and to overcome the slight obstruction to the passage of the venous blood through the lungs.

This disturbance all results simply from an insufficient supply of oxygen. The excitability of both nervous and muscular tissue depends on a constant and large supply of oxygen. In pneumonia there are other reasons why the heart should be strong in addition to those enumerated. During the stage of hepatization the blood is compelled to circulate through a smaller system of pulmonic vessels, necessitating strong contractions of the right ventricle. Fatty degeneration and absorption of the inflammatory products are favored by a free pulmonic circulation.

Hyperinosis is a condition of the blood marked in pneumonia, favoring ante-mortem thrombosis, which is more likely to result the weaker the contractions of the heart. The heart is also weakened from acute parenchymatous degeneration in a severe case of pneumonia. The weakness of the heart, then, in this stage of pneumonia is, to a certain degree, the physiological result of an insufficient supply of oxygen. I do not mean to speak of oxygen as a curative agent, but it will ameliorate some of the most distressing phenomena in a serious case of pneumonia when cyanosis is marked. It will, in this stage and form of the disease, be as conducive to relief as bread in time of hunger and water in time of thirst, and upon an equally rational basis. The system in either case craves for elements or compounds that it imperatively demands before relief can be obtained. We can assist nature considerably in relieving these distressing phenomena. When hæmatosis is very imperfect, we can administer oxygen just as well as expectorants to favor expectoration.

Oxygen, just like nutritives and stimulants, if administered too late, is equally without effect. I do not mean to speak of the necessity of oxygen in all cases of pneumonia; only in those where there is cyanosis. If any one element is more important than another in the maintenance of the functions of the body, it is oxygen. In pneumonia we try to secure relief for our patient. We assist nature so that the patient may endure the effects of the disease till nature no more needs our assistance. We try by internal remedies and external applications to reduce the temperature as near to the normal as possible. We administer nutritives and stimulants to maintain strength. We watch the functions of the different organs, and when they are deranged attempt to rectify them. But, when hæmatosis is very imperfect, we do not think of administering oxygen, and yet it alone can give relief; how inconsistent!

Oxygen is not indicated to relieve exhaustion unless it is the result of imperfect hæmatosis. Stimulants are not indicated for the relief of cyanosis unless associated with exhaustion. Each has its place and its office to perform. Great restlessness and anxiety may, perhaps, sometimes be observed which can not be attributed to exhaustion or cyanosis, but probably due to a virulent specific cause, such as the pneumonia-coccus, and in such a condition neither oxygen, stimulants, nor sedatives would give relief.

Pure oxygen is not irritating to the air-passages. If the blood or hæmoglobin becomes saturated with oxygen, the condition called apnœa will be produced. Could this be produced, I do not think it would be at all desirable. The respiratory movements facilitate the exhalation of carbonic acid. Were the respiratory movements to cease, the tension of carbonic acid in the air-cells would be more likely to approach that of the venous blood, and, as a consequence, favor carbonic-acid poisoning.

In the beginning of the winter of 1885 I was called to attend a severe case of lobar pneumonia. The patient suffered greatly from cyanosis, and died suddenly on the morning of the sixth day of sickness.

No oxygen was here administered. The next severe case that I was called to attend was on March 6, 1885. The patient was a young man, aged about sixteen, robust, temperature about 104° F., pulse frequent in proportion, severe pain in the side, dyspnœa, and rusty sputa at my first visit. Hepatization rapidly developed, dyspnœa became very marked, and cyanosis likewise on the sixth day of sickness. Being disgusted with the treatment recommended and applied in the case above mentioned, my patient begging me to relieve him from his labored respiration, as he was breathing then from 75 to 80 times a minute, I resolved to administer the very element he craved. In a few minutes after administering oxygen, cyanosis became less, the patient expressed himself as somewhat relieved, and in twenty minutes his respirations were reduced from 75 to 60 in a minute. The effects on the respiration and his color were distinctly appreciated by the parents and those around the bedside of the young man. I repeated the administration a number of times during that day until it was no longer needed. The patient recovered rapidly.

The next very severe case was that of a young lady, aged about fifteen, also robust: cerebral symptoms were very marked; the diagnosis was not decided for about two days. Solidification of the greater part of both lower lobes then became distinct, with a co-existing acute catarrhal condition of the whole mucous membrane lining the respiratory passages. Bronchial secretion was profuse. The pulse was frequent and the temperature was high from the beginning of the attack. The respirations became more and more frequent until the seventh day of sickness, when they numbered 80 and above to the minute.

On the seventh day of sickness cyanosis became alarming, and my patient was sinking fast. She begged for breath. I administered oxygen. It diminished the cyanosis remarkably. The respirations became much less labored and less frequent. This treatment I began on the seventh day of sickness. I continued the administration every three or four hours, with favorable effects, until noon of the ninth day of sickness. After this time it was without effect, and so was everything else that was administered. The patient died toward evening of the ninth day. Absorption evidently had in no way commenced.

I conscientiously believe that the patient in this case would have died forty-eight hours sooner had oxygen not been administered. I am confident that life and vitality were prolonged, thus allowing so much more time for absorption to take place. These are the only cases in which I have administered it with care.

To say that you are not prepared to administer it is no excuse when death is imminent, for every physician is as well prepared as I was, or soon can be at little expense.

I generated oxygen from chlorate of potassium and black oxide of manganese, in large test-tubes heated over a spirit-lamp, and with rubber tubing I conducted the gas to the bottom of a deep bucket filled with water, which I had placed to the side of the patient's head. Then with a fan the gas bubbling out of the water was wafted to the patient's face. This plan of generating and administering oxygen you may consider crude, and so do I; but I simply mention it to show what may be done in an emergency. It is the principle of a certain mode of treatment that I mean to advocate in my paper, and not the details. When I administered it about two years and a half ago I was not aware that oxygen had ever been administered in any form of pneumonia, only in diseases of the upper air-passages producing obstruction to the entrance of air into the lungs. During the last year a few cases of lobular pneumonia have been reported in which it was administered with good effects. I administered it in lobar pneumonia.

The use of oxygen in pneumonia is, however, nothing new to many members of the profession. Professor E. G. Janeway reported on the good effects of oxygen in pneumonia at the meeting of the New York State Medical Association in 1885. It is also much used in Bellevue and other hospitals. I am inclined to think, however, that the average country practitioner has very little medical literature that refers to the use of oxygen in pneumonia, which was one reason for writing this article. I advocate the use of oxygen not only in pneumonia, but wherever it is deficient unless for special reasons contra-indicated.

Whooping-cough, even if not complicated by pneumonia, might theoretically be benefited in relieving the venous stagnation. In many of those diseases which terminate fatally by apnœa according to some writers, or slow asphyxia, it might be administered, at least upon theoretical grounds.

Nux vomica I have administered in a number of cases where it was physiologically indicated. The effects were favorable when the dose was sufficient. This remedy is applicable not only in pneumonia, but often when from other causes the heart becomes feeble and irregular, the arterial pressure very much diminished, and at the same time the respiratory movements feeble and irregular. This condition often results from the effects of high temperature and severe acute constitutional disturbance. This remedy has to be handled with care, and the initiatory dose should be small, then increased till the physiological effects desired are produced.

PECULIAR PHENOMENA FOLLOWING AN INJECTION OF MORPHINE.

By HENRY C. COE, M. D.

Few of the trying experiences of the practitioner are so unpleasant as the sudden appearance of alarming symptoms in a patient after the administration of a minimum dose of a drug, especially if the same patient has before taken the drug with impunity. The situation is rendered peculiarly disagreeable from the fact that, no matter how great the anxiety of the physician may be, he must carefully conceal it. Doubtless most men as they grow in years and experience imitate the celebrated French physician who said that he found himself using the hypodermic syringe only when it was absolutely necessary. It is the younger men who are most apt to meet with cases such as the following:

A. B., a young married lady, consulted me on account of an attack of acute gastro-enteritis. As she was suffering severely with colicky pains, I injected five minims of Magendie's solution, having previously inquired carefully concerning her former history. I ascertained that she had been accustomed to take opium by the mouth during an attack of peritonitis. All other narcotics, as well as chloroform and ether, invariably produced unpleasant symptoms, bordering on collapse. The lady's general health was good, and I could discover no hysterical tendency. She possessed a strongly marked character, and endured pain quite stoically. The hypodermatic injection was administered between 7 and 8 P. M., and acted happily, relieving the pain and vomiting, so that the patient slept at intervals until 4 A. M., when the pains returned and were so severe that I was asked to repeat the injection, which I did, after satisfying myself that the effects of the former dose had apparently worn off. Six or seven minims, containing $\frac{1}{120}$ gr. of atropine, were injected, and the result was such as I do not wish to see again. The patient complained that she felt weak and faint, which did not seem strange, considering the fact that she had taken no nourishment for nearly twenty-four hours. Suddenly she had what appeared to be an ordinary attack of syncope, from which she was aroused only to faint again. Her respiration during the second attack became slow, and her pulse feeble, and an examination of the pupils showed that they were strongly contracted—in short, she presented all the symptoms of opium narcosis. From the second fainting fit she could not be roused. Fearing her peculiar susceptibility to drugs, I did not dare to administer atropine, or in fact to employ any active treatment. Sinapisms over the præcordium, inhalations of ammonia, and other simple remedies produced no effect. After half an hour spent in vain, I resorted to the faradaic current, contrary to the urgent solicitation of the lady's husband, who insisted that the application of electricity always induced an attack of angina pectoris, to which the patient had formerly been subject. The serious nature of the symptoms led me to disregard this caution. I first applied a current of moderate strength to the right arm in order to test the effect. It seemed to rouse her a little. The electrodes were then applied to the left forearm, when almost immediately the patient's face contracted as if with a spasm of agonizing pain and she groaned aloud, while she clapped both hands over her heart. During the attack the pulse became weak, and the heart-beat faint and irregular. The pain seemed to act as a stimulus, for the patient was roused, and answered when spoken to, but relapsed into her former condition, to be roused by another spasm of cardiac pain more severe than the first. There were three or four separate attacks, and no doubt could be entertained concerning the genuine character of the pain. The use of the battery was of course suspended on the first appearance of the symptoms predicted by the husband. As the result of these attacks the patient awakened from her semicomatose condition and took a little champagne. She remained drowsy all day, and afterward declared that she had no knowledge of what had occurred during that period. The after-history of the case presents nothing of interest. On a subsequent occasion I ventured to give her a grain of opium in two suppositories, and no bad effects followed. On further acquaintance the lady failed to show any hysterical tendency. She herself accounted for the peculiar effects of the drug by her weak condition induced by diarrhœa and abstinence from food.

As regards the explanation of the phenomena described, it will naturally occur to every one that the symptoms were purely hysterical. But in every doubtful case of hysteria a careful review of the history, even if the patient is seen for the first time, will furnish confirmatory facts. In the present instance there was no evidence of such a tendency, and there were no symptoms pointing to pelvic trouble. The patient, though a nervous, was a sensible woman, and rather rejected than sought for sympathy.

It was suggested to me by an eminent practitioner that the phenomena following the injection might have resulted from the introduction of the solution directly into a vein. This seems to me improbable, considering the region selected for the injection (over the deltoid), and the fact that no escape of blood or subcutaneous extravasation followed the withdrawal of the needle, a result which I have always noted after the accidental puncture of superficial veins.

The only explanation which appears to be satisfactory is this: Aside from the fact that the patient had a peculiar susceptibility to morphine, she undoubtedly experienced the cumulative effect of the drug, not having recovered from the first dose before she received the second. In addition to this, her general condition was such that she was more profoundly affected than she would have been under other circumstances. There is no reason to doubt that the attacks of cardiac pain were so severe as to counteract, to some extent, the effects of the poison. I doubt if the patient had ever taken morphine before. Careful questioning developed the fact that her physician was quite familiar with her peculiar susceptibility, and rarely resorted to medication except of the simplest kind. The case is interesting merely as furnishing another of those frequent warnings which we receive regarding the necessity of dealing cautiously with strange patients. I am acquainted with a lady who can bear absolutely no narcotic or analgesic. A drop of cocaine solution applied to a small ulcer on her lip caused distressing faintness and vertigo, lasting for over an hour. A small injection of morphine would mean death to her, and yet a strange physician can not be expected to know these peculiarities by intuition. Annoying as it may be to spend an hour or more with a patient for the purpose of administering two or three small doses of morphine instead of a single full dose, and to bear with the impatience of a sufferer who wishes instant and entire relief, doubtless it is better in the end, for sooner or later we shall have occasion to repent our too free use of the seductive syringe.

Long Branch, *August 22d.*

Correspondence.

LETTER FROM VIENNA.

Docent Riehl on Acute Circumscribed Œdema of the Skin.—Dr. Gruss on Acute Retrobulbar Œdema.—Docent Wagner on the Circulation of the Blood in the Brain.—Professor Albert on the Intra-cranial Circulation after Concussion of the Brain.—Professor Drasche on the Influence of Strophanthus Hispidus on the Heart.—The Vienna International Congress of Hygiene and Demography.—The Vienna General Hospital.

Vienna, *August 11, 1887.*

During the summer session of the Imperial-Royal Society of Physicians of Vienna, Dr. Riehl has shown two rare cases of acute circumscribed œdema of the skin, and made some interesting remarks in connection with them. One of the patients, thirty-three years old, had suffered for three years with œdema of the right or left cheek, which appeared and disappeared at various times. The patient attributed the trouble to exposure to draughts and heat. It had not given rise to any general disturbance, and there was no evidence of any changes in the internal organs. The other patient, fifty-one years old, stated that in 1874 his left upper eyelid suddenly became swollen to the size of a man's fist, as the consequence of intense emotional excitement. The swelling disappeared after twenty-four hours, and appeared again at the end of fourteen days. In 1878 the right upper eyelid also became affected for the first time, in the same manner as the left one, and since that time the patient had observed that both the eyelids, the cheeks, and the lips swelled alternately at intervals of from ten to twelve days. Owing to the repeated attacks of œdema, the skin of the upper lids had become so stretched as to hang down over the palpebral fissures like curtains. The characteristic features of acute circumscribed œdema, said the speaker, were its sudden appearance and disappearance. The œdematous part was neither warm nor reddened, and there were no subjective sensations of heat. The skin was solid to the touch, but pitted on pressure. According to Quincke, in some cases the patients were broken down in health and suffered from vomiting before the appearance of the œdema. Such cases had also been reported by Strübling. In some of the cases in question, an hereditary predisposition had been shown to exist. The speaker added some details as to the differential diagnosis of acute circumscribed œdema of the skin and the œdema of whooping-cough, myxœdema, generalized urticaria, etc., and remarked that the acute œdemata of the mucous membranes, especially those of the mucous membrane of the larynx, might be classed with the affection under consideration. The ætiology of the morbid process was not very well known. Traumatic lesions and psychical disturbances probably played the chief part in it, and it was highly probable that its origin should be sought for in the central nervous system.

Dr. Adolf Gruss reported, in connection with Dr. Riehl's communication, a very interesting case of acute retrobulbar œdema, with an acute right exophthalmia of high degree. Besides a neuralgia of the fifth nerve, which was due to traction on the first branch of the fifth, the case presented another interesting assemblage of cerebral symptoms—namely, continued cerebral vomiting, diminution of the frequency of the pulse (which progressed very quickly, so that 60, 55, and 40 were noted as the general symptoms reached their acme), and an attack of giddiness; and the diagnosis of a severe cerebral affection was made. Taking the whole set of symptoms into account, a sinus thrombosis was thought to be exceedingly probable; but, on the other hand, there was no indication of nerve irritation or paralysis, except the irritation of the vagus, and an examination of the eyes showed the following conditions: Exophthalmia of a high degree, œdema of the eyelids and of the conjunctivæ, considerable enlargement of the nerves of the retina, which was pale throughout its whole extent, protrusion of the papilla of the eye, impairment of the power of sight, and limitation of the mobility of the eyeball. Hence, there were symptoms which did not admit of a certain diagnosis, to say nothing of the fact that no occasion for the development of a thrombosis of the sinuses could be detected, as the heart was quite normal and a bronchial catarrh with which the patient happened to be suffering was so inconsiderable as in no wise to justify the suggestion of a thrombosis of the sinuses. The cerebral symptoms first gradually disappeared, then the exophthalmia and the neuralgia, and, after the lapse of twenty-four hours, nothing was to be seen of all the severe symptoms, except a slight œdema of the eyelids. After fourteen days the patient had another attack of the same kind, owing to emotional excitement, but the cerebral symptoms were not so severe as before. Professor von Bamberger, who was consulted, diagnosticated acute retrobulbar œdema, declared the condition not to be dangerous, and, taking into consideration the patient's obesity, ordered Marienbad water and regulation of the diet. These measures were followed by complete success, and in the following six weeks the patient had only three attacks; the first was attended with slight slowing of the pulse and an inclination to vomit, and the two others were accompanied with exophthalmia and neuralgia. All the attacks were due to emotional excitement or intellectual fatigue. The patient had now had no such attack for two years.

Dr. Wagner, in conjunction with Dr. Gärtner, has performed experiments on the dog for the purpose of ascertaining the conditions of the cerebral circulation, having been particularly led to do so by the paucity of communications on that subject and the disputed or contradictory nature of the statements made in them. They laid open the chief efferent vessel, a branch of the posterior facial vein, and a direct continuation of the transverse sinus. They could not gather all the blood which flowed out from the brain, as the veins were very numerous, and many of them inaccessible to section. They measured the quantities of blood that came out of the cannula which they had introduced into the vein, and first investigated the influence of the arterial pressure on the rapidity of the current. They found that the latter was in direct proportion to the pressure. Compression of the aorta produced a great and sudden increase in the rate, whereas compression of the ascending vena cava was attended with a decrease in the rapidity. The experiments which they carried on with narcotics were of peculiar interest. Two of the most important narcotics—chloroform and morphine—were tried. As to morphine, its use appears not to have been followed by any considerable change in the rapidity of the blood-current, which remained quite in proportion to the amount of pressure present. Chloroform, however, paralyzed the blood-vessels, and, although the blood-pressure was considerably diminished in the late stage of the narcosis, an enormous increase was observed in the quantity of the blood that flowed out—five times as much as at the beginning of the experiment. In proportion as the narcosis subsided and the pressure increased, the rapidity of the flow diminished again. The influence of amyl nitrite was similar to that of chloroform. The experiments with electrical stimulation of the cerebral cortex, which they performed on curarized dogs, led them to conclusions quite opposed to those recorded in literature. Contrary to the statements of others, that such irritations were attended with anæmia of the brain, and that the epileptic attacks which followed them should be referred to the anæmia, they never observed a decrease of the blood-current; on the contrary, they found that, in from fifteen to twenty minutes after the irritation, the current increased considerably, and reached its acme at the moment when the animal experienced the slight muscular contractions preceding the epileptic attacks. Neither was irritation of the peripheral sensory nerves followed, as had been stated by other investigators, by anæmia, but always resulted in a hyperæmia, which went hand in hand with the blood-pressure observed under such conditions. The results of these experiments were of great importance in physiology and pathology, and for that reason Dr. Wagner announced that he would continue them and report further on a subsequent occasion.

Professor Albert, prompted by Dr. Gärtner's communication on the rapidity of the blood circulation in the kidney and other organs, and by Dr. Wagner's on the circulation in the brain, has resumed certain experiments which he had begun, bearing on the subject of the circulation within the skull after concussion of the brain. Following the method of Koch and Filehne, he produced artificial concussion of the brain in curarized dogs by hammering on the skull. For the purpose of observing the outflowing blood, the vein which forms the direct continuation of the transverse sinus was laid open exactly after the method of Gärtner and Wagner, and the drops of blood which came out within given periods of time were counted while the crural artery was in connection with a kymograph. The following results were noted: The very first blows with the hammer produced an increase in the rapidity of the flow of blood. This procedure, however, caused also a considerable coincident increase of the blood-pressure and a slowing of the pulsations. But in a short time the blood-pressure fell, although the increased rapidity of the current still persisted; this was likewise the case when the pressure curve fell below the starting-point. The experiment lasted in one case for more than twenty-five minutes, the increased rapidity of the circulation persisting for that whole period. The conclusion from these experiments was that the concussions of the skull by hammering, besides the irritation of the vagus characteristic of cerebral concussion, were attended with a considerable dilatation of the blood-vessels of the brain (in a way analogous to that produced by Wagner and Gärtner by electrical irritation of the cortex).

After having experimented with *Strophanthus hispidus* for three months at his clinic, Professor Drasche communicated to the Imperial-Royal Society of Physicians the results which he had observed with this drug. He used an alcoholic tincture mixed with an equal quantity of cherry-laurel water, and gave half of Fraser's maximum daily amount, namely, twenty drops in two doses. A constant decrease in the frequency of the pulse was observed, sometimes to the extent of eight, ten, or twelve beats in the minute, after the lapse of some minutes. At other times, however, such a retardation was not observed until half an hour after the drug was administered. The effect was found to last for some hours. In a case of nervous palpitation, in a woman whose pulse was from 140 to 150, from ten to twenty drops of the tincture were given daily for three weeks, without any observable cumulative effect. The frequency of the pulse did not diminish, however, until twenty drops were given twice a day, when it was lessened by twenty beats to the minute and the action of the heart became more quiet. No disturbance of digestion occurred, even after six weeks' continuance of the use of the drug in this form. In a case of Basedow's disease, in which there was a very turbulent action of the heart, he succeeded by giving twenty drops of the tincture in lowering the pulse-rate and producing some improvement in the rhythm. He tried the drug in thirty cases of heart failure with grave disturbances of compensation, and observed in these cases also a somewhat favorable effect. The palpitation and the anxiety disappeared very quickly, and the accelerated action of the heart diminished much more decidedly than after the use of adonis or digitalis. The drug was tried, moreover, in various febrile diseases, such as pneumonia, acute phthisis, typhoid fever, etc.; and here, too, it produced retardation of the pulse as well as a slight depression of the temperature, which, however, rapidly rose again. It may be stated that Professor Drasche was the first to introduce the drug into Austria, after it had been recommended by British observers, especially by Fraser, of Edinburgh, as well as by American investigators. The results which other Vienna physicians have observed with strophanthus are also very favorable.

The Sixth International Congress of Hygiene, to be held in Vienna in September, promises to be crowned with much success. Fifty-seven of the reports that are to be read are already in print, and will be transmitted to the members of the congress toward the end of August. Foreign governments are giving great aid by sending distinguished persons to represent the respective countries.

Hofrath Dr. Hoffmann, the director of the Vienna General Hospital, has been placed on the retired list by the Minister of the Interior, at his own request, as his advanced age and weakened health did not permit him to carry on the onerous duties of the position any longer. Professor Charles Böhm, the former director of the Rudolph Hospital, has been elected in his place as manager of the General Hospital.

THE
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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The ninth meeting of the International Medical Congress, which is to be held in Washington next week, is undoubtedly to be looked upon as an event of the highest importance in its relation to the medical profession of this country. In that respect its effect may confidently be expected to be beneficial. How the profession throughout the world will rate it, as compared with previous meetings of the same body, is somewhat uncertain. Two years ago, the successful character of the meeting was well-nigh despaired of by what may properly be designated the conservative element of the American profession. This element could not shut its eyes to the conviction that the nation, although a stalwart stripling, had not yet come to maturity, and, in any international arena, would be handicapped by that fact. Our career in medicine is one of which we need not be ashamed, indeed it is one of which, all things considered, we may justly be proud; but we have not yet produced any great number of men whose attainments are such as to lead the medical profession of the rest of the world to regard them as particularly qualified to shed light upon the subjects that naturally come up for discussion on such an occasion as that of a gathering of medical men from all countries. When to this it had to be added that a considerable number of the few such men that we had were estranged from the organization—by whose fault it mattered not—the outlook was still further clouded. Then, too, it was feared that a degree of pique had arisen among our Berlin *confrères*, owing to the choice of Washington instead of Berlin as the place of meeting, that would seriously intensify the natural disinclination of European physicians to undertake the Transatlantic journey—a familiar matter with us, but rather uncommon for them. Finally, everybody recognized the fact that we had not the social and festal resources in Washington, in the month of September, that European capitals afforded.

The second and the third of these sources of embarrassment were felt to be to a great extent insurmountable. So long as there was any apparent possibility of overcoming the first, thus enabling the American profession to appear to as good advantage as might be, each of the two parties to the unhappy controversy that had arisen was quite justified in the efforts it put forth to cause its own ideas to prevail. So soon as it appeared evident that an agreement was impossible, those whose views had been overruled took a position which can not be called unnatural when they decided to take no part in the meeting. Even if we concede that it would have been sweeter and more decorous in them to conquer their disappointment and their doubts and still do what in them might lie for the success of the occasion, there is not such a scarcity of glass houses as to warn them to prepare against a shower of stones. The statement has been made, however, that some of those gentlemen, not content with standing aloof, have sought to thwart the success of the meeting in various ways, such as by working for a reduction of the Congressional appropriation and by actively inspiring Europeans of their acquaintance with the idea that the meeting would not be worth attending. We are unwilling to believe that this allegation is true, at least of men of any standing in the profession, although it is well known that motives which are in themselves honorable sometimes lead to acts that are apt to be looked upon as questionable, if not reprehensible.

But, after all, the success of the Washington meeting is not to be measured wholly by the number or the eminence of the foreigners in attendance, or by the impression which the American profession makes upon them. We should, of course, be glad to see both of these features of the meeting at their best, but we should bear in mind that so great an assemblage of our own men alone, even if no eminent Europeans were to be present—and it is by no means sure that a goodly number of the latter will not be in attendance—can have only a beneficial effect. Beyond all doubt, the meeting will be a very large one, and will be made up, so far as the home contingent is concerned, of physicians from all parts of the country. One of our French contemporaries complains that the government of France has not thought proper to send an adequate representation, but we understand that the European governments in general have made due provision in this respect. The number of foreign gentlemen who have signified their intention of contributing papers is large, and we are informed that many of those papers, either in full or in abstract, have already been received. The programme includes, according to our latest information, about six hundred papers. As these papers are to be read and discussed in nineteen different sections sitting for six days, it will be seen that, assuming that they are distributed among the various sections with any near approach to uniformity, they all stand a good chance of meeting with sufficient consideration.

In view of the slender pecuniary resources available, the arrangements made for the diversion and entertainment of the members are such as can hardly fail to prove acceptable, and such as reflect great credit upon the gentlemen who have had them in charge. The efficiency of the Secretary-General of the congress, Dr. John B. Hamilton, is among the more important of the advantages that are calculated to offset the embarrassing circumstances which we mentioned in the opening portion of this article. Ever since his accession to the office, the prospects of the meeting have continually brightened, and our knowledge of his exceptional executive abilities warrants the declaration that no other single incident has helped so powerfully to dispel the doubt and anxiety that were general but a few months ago. Taking everything into account, then, the meeting may reasonably be looked forward to as certain to accomplish great good for medicine in general and for the medical profession of the United States in particular. Some heart-burnings are almost unavoidable on such an occasion, but we feel sure that any that have been engendered or that may yet arise in this instance will disappear like the shadow of a passing cloud. Such, at all events, is our sincere hope.

PACHYDERMIA LARYNGIS.

In a characteristically able article by Professor Virchow, published in the "Berliner klinische Wochenschrift" for August 8th, much light is thrown upon the condition heretofore described as "papilloma" of the larynx, in a description of the microscopical appearances which the author believes to be present in the disease. The subject was suggested by the much-discussed case of the Crown Prince of Germany, the progress of which, under the care of Dr. Morell Mackenzie, seems thus far to have confirmed Virchow's favorable prognosis.

Virchow objects to the name papilloma as being applicable to several forms of new growths, and therefore inaccurate. The description of pachydermia he thus sums up: In a certain restricted area of the larynx, under irritation, two kinds of proliferation may occur, resembling chronic inflammation. By one of them a warty growth, which he calls pachydermia verrucosa, is produced; by the other a diffuse swelling, which attacks the whole superficies. They resemble the warts and diffuse hypertrophies often caused by irritation of the external integument. The distinction between a simple papillary wart and a malignant papillary growth lies in the absence of epithelial elements in the former and their presence in the latter. Every trace of epithelium in the connective tissue is suspicious, while growths in which the normal demarkation exists at the base of the epithelial layer Virchow considers benign. The disease is cancerous when spaces filled with epithelial masses are found beneath the boundary-line of epithelium. In order to make a diagnosis, the base of the tumor must be examined. When this is found to be normal, the growth is, and will continue to be, benign; when, however, spaces filled with epithelium are found beneath the normal demarkation at the base, the growth is malignant.

Although recurrences of the benign form of papillary growth are not uncommon, the prognosis as to ultimate recovery after removal is good, and it is not impossible that spontaneous disappearance may sometimes occur. The present writer has known of several instances in which this result has seemed to take place, one of which is not unworthy of mention. A boy, observed by a number of laryngologists for several years at a prominent throat clinic in New York, was originally presented by his mother as affording to the students a remarkably good illustration of the so-called papilloma of the larynx. Although the growth was of such size as almost to fill the larynx, and the mother was forewarned as to its danger, she persistently refused to allow of its removal; its presence was a source of revenue to her so long as she could extort a fee for its demonstration to the class. Contrary to all expectation, the boy continued to live, and finally returned on one of his annual visits with the tumor reduced to such a vestige of its former dimensions as to make it useless for exhibition. Both mother and son stoutly denied that any treatment had meanwhile been received.

The value of Professor Virchow's observations will readily be appreciated, especially as bearing upon cases of laryngeal disease in which the question of laryngectomy may arise. In such cases an early diagnosis is of vital importance, for determining both the necessity of the operation and its extent, partial removal of the larynx being far less undesirable than its total removal. As to the correctness of his views, it need only be remembered that he has advanced more new ideas in pathological anatomy, with a smaller proportion of errors, than any man living. Such being the case, the outlook for the Crown Prince is, to say the least, hopeful.

MINOR PARAGRAPHS.

OUR FOREIGN VISITORS.

As is mentioned elsewhere in this issue, a number of well-known foreign physicians have registered with the committee sitting at the Hoffman House, and several European passenger steamships are due at this port between the time of our going to press and the opening of the congress in Washington. It is impossible to say how many of our foreign *confrères* have arrived, but have omitted to call upon the Hoffman House committee. A notable instance is that of Professor Mariano Semmola, of Naples, a man of such eminence as to need no introduction to the American profession. Dr. Semmola comes as a representative of the Italian government, and Italy has done us an unmistakable honor by making such a selection. Dr. Semmola is to deliver one of the general addresses. He manifests great respect for American medicine, and we trust that that feeling will be heightened by what he sees and hears in Washington next week.

THE DISEASES OF WINE-TASTERS.

In the "Annales médico-pyschologiques," M. Domat states, as we learn by an abstract published in the "Revue générale de clinique et de thérapeutique," that wine-tasters are subject to cerebral and gastric disorders comparable to those of hard drinkers, even if they do not swallow the wine which they take into the mouth. According to M. Morandon, however, such results are rare among the wine-tasters of Burgundy, provided they do not swallow the wine. Ætiologically, the disorders of wine-tasters and those of tea-tasters are considered to be analogous.

ANOTHER NOD.

"Lyon médical" lately exposed a blunder into which one of its German contemporaries had fallen in allowing the author of an abstract to treat the heading of an article as if it were the name of the original writer. We can now call its attention to an analogous slip of which its own pages have furnished the occasion. The Lyons journal for March 20th contained an article by Dr. Louis Hugounenq, entitled "Sur la présence dans le sang et dans l'urine de certains diabétiques d'une nouvelle substance lévogyre" (*i. e.*, "On the Presence of a New Levogyrous Substance in the Blood and Urine of certain Diabetics"). In the "Deutsche Medizinal-Zeitung" for August 15th there is to be found an abstract of this article in which the adjective *lévogyre* is treated persistently as if it were a noun, and the name which the French writer had given to the new substance, as shown by such expressions as these: "Diese Linksdrehung kann nur von Lévogyre herrühren," and "Um auch das Blut dieser Kranken auf Lévogyre zu prüfen."

A DIVERSION OF CHARITY FUNDS.

We are informed of a state of things that shows that in Italy there is room for some such tribunal as our city Board of Apportionment. It seems that the diet of some of the hospital patients was lately found to be lacking in a due amount of meat. The deficiency having been brought to the attention of the proper official, that functionary replied that a portion of the meat formerly furnished for the patients now had to be used to make bouillon for the cultivation of micro-organisms.

THE PROTECTIVE INOCULATION OF ANTHRAX.

The "Deutsche Medizinal-Zeitung" gives an abstract of an article that appeared in the "Semaine médicale," a short time ago, by Professor Koch, of Berlin, in which the author repeats his declaration that M. Pasteur's method of preventing anthrax by inoculation is not of the slightest practical use. His present argument rests on the alleged untrustworthiness of the French statistics and on negative instances cited from German experience. Whatever may be thought of such a foundation, it must be admitted that it can not be said without reserve, as was lately stated by M. Pasteur, that the Berlin men have overcome their doubts about the efficiency of the system.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 30, 1887:

DISEASES.	Week ending Aug. 23.		Week ending Aug. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	48	14	31	4
Scarlet fever	28	3	31	9
Cerebro-spinal meningitis	2	2	2	1
Measles	9	0	11	1
Diphtheria	72	21	60	20
Small-pox	0	0	5	0

The International Medical Congress.—At the time of our going to press, about sixty physicians had registered at the Hoffman House Registration Bureau. Of this number, forty-three were from abroad, and the list includes the names of Dr. E. Landolt, Dr. Kuhn, Dr. P. Dubois, and Dr. T. A. Doléris, of Paris; Professor W. Wundel, of Berlin; Dr. G. Fielding Blandford, Dr. William Murrell, Dr. F. T. Mattox, Dr. I. Elliford, Dr. A. S. Gubb, Dr. John Anderson, Dr. R. M. Bowen, and Dr. J. A. Marston, of London; Dr. C. Enebuske, of Lund, Sweden; Dr. E. Olfa, of Munich; Dr. J. J. Murphy, of Dublin; Professor N. Manobren, of Bucharest; Dr. D. Dupuy, of Pau; Dr. E. Dienen and Dr. L. v. Farkas, of Budapest; and Dr. A. J. Villa, of Buenos Aires. All physicians who purpose attending the Congress can obtain at the Registration Bureau a certificate which entitles them to a reduction of eighty-eight cents from the regular excursion-ticket rate of $10.00 over the Pennsylvania Railroad, the ticket, which is usually limited to ten days, being made good until September 25th. The additional cost of a Pullman car seat on express trains is $1.25, and on limited express trains, which leave New York at 10 A. M. and 3.40 P. M., it is $2.35.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 21 to August 27, 1887:*

Tremaine, W. S., Major and Surgeon. Found incapacitated for active service by an army retiring board, and extension of leave of absence on account of sickness still further extended until further orders. Par. 9, S. O. 192, A. G. O., August 19, 1887.

Bartholf, John H., Major and Surgeon. Leave of absence extended one month. Par. 7, S. O. 196, A. G. O., August 24, 1887.

Patzki, Julius H., Captain and Assistant Surgeon. Granted leave of absence for one month. Par. 15, S. O. 195, A. G. O., August 23, 1887.

Matthews, Washington, Captain and Assistant Surgeon. Ordered to proceed to Phœnix, Arizona Territory, on public business, and on completion thereof to return to his proper station, S. G. O. Par. 21, S. O. 195, A. G. O., August 23, 1887.

Taylor, Blair D., Captain and Assistant Surgeon. Granted leave of absence for twenty days, to take effect on or about August 31, 1887. Par. 7, S. O. 193, A. G. O., August 20, 1887.

Swift, E. L., First Lieutenant and Assistant Surgeon. Ordered to report in person to commanding general, Division of the Pacific, for duty with troops at Round Valley, Indian Reservation. Par. 20, S. O. 195, A. G. O., August 23, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending August 27, 1887:*

Bailhache, P. H., Surgeon. Granted leave of absence for thirty days. August 26, 1887.

Carter, H. R., Passed Assistant Surgeon. Granted leave of absence for twenty-seven days. August 25, 1887.

Yemans, H. W., Passed Assistant Surgeon. Resignation accepted, to take effect September 30, 1887, and leave of absence extended to that date. August 24, 1887.

Norman, Seaton. Granted leave of absence for six days on account of sickness. August 27, 1887.

Society Meetings for the Coming Week:

Monday, *September 5th:* Ninth International Medical Congress (first day, Washington); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *September 6th:* Ninth International Medical Congress (second day); Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Franklin (quarterly) and Niagara (quarterly, Lockport), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association.

Wednesday, *September 7th:* Ninth International Medical Congress (third day); Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Bridgeport, Conn., Medical Association.

Thursday, *September 8th:* Ninth International Medical Congress (fourth day); Society of Medical Jurisprudence and State Medicine; Medical Society of the County of Cayuga, N. Y.; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *September 9th:* Ninth International Medical Congress (fifth day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association; Medical Society of the Town of Saugerties, N. Y.

Saturday, *September 10th:* Ninth International Medical Congress (last day).

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Continued from page 190.*)

The Nasal Reflexes and Hay Fever.—Papers on these subjects were read by Dr. J. N. Mackenzie, of Baltimore (see page 199), and Dr. J. O. Roe, of Rochester (see page 255).

Dr. C. E. Sajous, of Philadelphia: I am especially interested in Dr. Roe's paper, and particularly because it gives me an opportunity to report my experience with hay fever during the past year. You will remember that my friend Dr. Morgan, of Washington, asked us at the last meeting of the association to give our experience regarding this subject. I did so frankly, having had a limited number of cases in which the treatment had been satisfactory the preceding year. In the light of my present experience, superficial cauterization can only be of permanent benefit in light cases. In serious cases it can only produce temporary relief. A number of patients treated with success two years ago returned to me, and then with deep cauterization I obtained favorable results. Last year I had unvarying success with my cases. I have not had to regret the treatment in one of them, and I think it is because I have come to consider superficial organic alteration as merely palliative in complicated cases, while deep cauterization is curative. Of course, this is to be aided by previous eradication of hypertrophies, bony growths, polypi, etc., as outlined by Dr. Roe.

Dr. Mackenzie: At the last meeting I freely expressed my views on the subject of so-called "hay fever," in a paper which has since been published in the "Transactions," and I will therefore not repeat what I said on that occasion. As you all know, I regard this disease as a neurosis. The nasal disease associated with it may be its primary cause, may be a secondary phenomenon, or may be purely accidental. The theory which attributes "hay fever" always to disease of the nasal passages is, I think, unsound and insufficient. There are cases in which there is no apparent nasal affection whatever. When I set out to investigate this subject, I was inclined to think, with Dr Daly and Dr. Roe, that there was always some well-defined nasal affection present; while the existence of a nasal lesion in the great majority of cases must be accepted as a clinical fact, it is not always the initial lesion, but is not infrequently secondary or accidental. In the management of this class of neuroses we should carefully distinguish between two sets of cases—namely, those in which the nervous system is just beginning to suffer, and those in which it is more decidedly involved or in which it is the starting-point of the neuro-vascular disturbances. To illustrate: A patient with disease of the nose (or other respiratory lesion) suffers from paroxysms of cough, asthma, or some other affection referable to a reflex agency—some other "reflex neurosis." There are no other signs of a disordered nervous system. Perhaps this is the sole symptom for which he seeks relief. An examination of the nasal fossæ is made, disclosing a congested or catarrhal condition of the mucous membrane, a nasal polypus, or a deflected septum; and, on the removal of the local affection, the asthmatic attacks cease, the cough is dissipated, and the patient is restored to apparent health without other remedial measures. Now, what is the explanation of this curious relationship? When we consider the fact that hundreds of this patient's neighbors suffer from the same nasal affections, but that only a comparatively small proportion are affected with similar reflex troubles, it seems impossible to escape from the assumption of an abnormally excitable nervous apparatus and its constant irritation by the pathological condition in the nose. It is manifestly unwarrantable to maintain that there is anything in a nasal polypus, an hypertrophied membrane, or a deflected septum to cause asthma and allied affections; but, in the absence of more definite knowledge, it is reasonable to infer that such an event probably occurs through the intervention of a more central cause. The explanation suggests itself that in this particular case the nasal passages may be the sole avenues through which the nerve-centers are influenced, and that, with the removal of the irritant and their consequent physiological rest, the disorder has been apparently, perhaps actually, dissipated. Let us follow this individual further in his life history. Perhaps the relation of his cough to the nasal affection has been unrecognized. In a little while, asthma is added to his disease; later on, affections of the eye, the ear, and other organs develop, with various symptoms referable to a disordered nervous system—he has no longer one troublesome reflex symptom, but a dozen. He consults his physician, and, if it is in the summer-time, is told that he has "hay fever," and that pollen is the cause of his trouble. This is no hypothetical case, but the narrative of *one* way in which the nervous system may be affected in the sympathetic affections of the respiratory tract. The first thing to determine, then, in a given case of nasal reflex neurosis, is as to whether the nervous phenomena are due primarily to respiratory irritation, to central causes, or to disease in other organs of the body—whether the symptoms referable to the respiratory tract are primary or secondary, and, if they are primary, to what extent the nervous system is involved. The class of cases in which relief or cure may be expected from local treatment alone is that in which the respiratory membrane is the primary seat of the disease, and in which the nervous system is not decidedly involved. In this set of cases—or, to look at the subject from another standpoint, at this *stage* of the disease—are included a number of the simpler forms of so-called nasal reflex neuroses. At this stage, the removal of a nasal polyp may cure a troublesome cough, cauterization of the mucous membrane may dissipate an inveterate hemicrania, and so on. Even at a later stage, when the group of symptoms commonly known as constituting "hay fever" develop, it may be possible, by securing physiological rest for the nerve-centers, to give temporary and even permanent relief. But, when the central nervous system becomes more profoundly impressed, when nearly every organ of the body seems to be included within the arc of the neuro-vascular disturbance, when pronounced structural changes occur in different parts of the respiratory and other systems, it is manifestly unnatural to expect that the disease may be cured by local measures alone.

I do not desire to depreciate the value of the cautery and other local measures, but I wish to insist upon the fact that there is a class of cases in which their use is wholly unnecessary. In my last year's experience, it so happened that several cases of unusual severity came under my care in which there was no well-defined nasal disease. No local treatment was used beyond the ordinary cleansing of the passages, and the patients were treated on the principles laid down in the paper which I read before this association last year; and I think the results were as good as in any previous year, if not better. Reference has been made in the discussion to deep destruction of the cavernous bodies. Operators seem invariably to set out with the idea of *extirpation* of these bodies. The total extirpation of the corpora cavernosa is practically an impossibility, and, even if it were practicable, would be warrantable only as a last and desperate resource. I have rarely found such procedures necessary, and I believe that I accomplish an equally good, if not better, result by operating on a somewhat different principle. Having mapped out the area of most pronounced vascular disturbance, I make a stellate incision through the mucous membrane and the cavernous body with the cautery-knife. The vessels in the pathway of the incision become obliterated, a star-shaped cicatrix results, and the mucous membrane and the turbinated tissue become, so to speak, bound down or depressed upon the bony wall of the nostril. In order to avoid extensive sloughing, the incisions may be made at different sittings. By means of this method a sufficient patency of the nostril is secured, the erection of the turbinated bodies is brought under control, and the patient escapes with a comparatively small loss of function. I take this occasion to correct a false impression which seems to have gone abroad concerning my views of the sensitive areas of the nose. It seems to be the belief of many that I regard the posterior end of the inferior turbinated body and the septum immediately opposite as the only points from which pathological nasal reflexes take their origin; but, if my publications on this subject are read, it will be seen that all I maintain is that, while all portions of the nasal mucous membrane may be the starting-points of the reflexes, by far the most sensitive zone is represented by the area described by me in 1883—just as in the larynx, while cough *may* be produced by irritating any portion of its interior, both clinical and experimental observation demonstrate the fact that the inter-arytenoid commissure is the spot concerned above all others in the production of the reflex act.

Dr. Sajous: I should like to ask Dr. Mackenzie how, according to his view, so large a number of patients could be cured merely by local applications.

Dr. Mackenzie: I think I sufficiently considered that question in my communication to the association last year. I have also referred to it in the present discussion. The main principle is, briefly, this: By the removal of the local irritant, a condition of rest—physiological rest—is secured for the centers, which enables them to recover their normal tone. As long as this rest continues, the patient may be free from his trouble; but, set up the local irritation afresh, and his disease will return.

Dr. F. I. Knight, of Boston: A proper question to raise in this connection might be the effect of the diversion of nerve influence upon the asthmatic attacks. A case was once reported to me in which the attacks were entirely aborted by the patient's accidentally breaking his leg. He had been a sufferer for years previously. Another patient, who had suffered from hay fever for years and had undergone all sorts of treatment prior to modern methods without obtaining relief, met me last summer, and, exposing his conjunctivæ, said: "*Look* at me." I said: "Oh, yes, somebody has been cauterizing your nose." "No, sir." "You have been taking some strong tonics from Dr. Mackenzie." "No, sir, I have been to a mind cure." He had taken three or four sittings with a woman who professed the mind-cure method, and had come away entirely relieved. I have no doubt that other members have seen cases in which, through the influence of mental diversion, the attacks of hay fever have been ameliorated or entirely forgotten.

Dr. W. C. Glasgow, of St. Louis: I think Dr. Mackenzie has raised a very important question in asking whether hay fever is ever cured by local applications. I do not believe it is. Local applications, cauterizing, scarifying, and burning, may deaden the sensibility of the terminal ends of the nerves, but hay fever, I believe, is not cured by such treatment, for it is a general nervous disturbance. In all cases of asthma, constitutional remedies have to be used. For instance, iodide of potassium tends to hold the disease in abeyance while we correct any disorder of the terminal filaments of the nerves. A certain amount of relief may be obtained by deadening the ends of those nerves. But the asthmatic attack will continue until we have used some appropriate constitutional remedy. So I do not believe in this local treatment of hay fever. If we could destroy the nose, or turn its mucous membrane into a large cicatrix, perhaps it might tend to prevent a recurrence of the attacks. But, of course, no one would think that a very wise thing to do. There is no doubt that such local applications do tend to check the disease; I have seen them do so in many cases, but I have seen the disease recur after I had thought it was cured. Hay fever varies from year to year; one year most patients have the attack, the next year many escape; they may have it again the third year, or again escape it. So that it is hard to say when a case is cured.

Dr. Edgar Holden, of Newark: I have always regarded this trouble as a neurosis, and I suppose the majority of the profession have accepted that view. When Beach Haven was established, I went there, not because of hay fever, for I never had anything of the kind, but because I thought it was a desirable place to spend the summer. For twelve consecutive years I spent the summer at Beach Haven, and saw there hundreds or thousands of cases of hay fever. My leaving the place came about in this way. On the 20th of August, about the time the patients with hay-fever began to have their attack, I took what I supposed to be an ordinary cold, and paid little attention to it. The next season I began to have the same kind of trouble as the other people, and at about the same time. It seemed to me impossible, but the third season, the twelfth year after I had first spent the summer there, I had so severe an attack that I left Beach Haven, and have not had any symptoms of hay fever since.

Dr. F. H. Hooper, of Boston: I regard hay fever as a neurosis, and treat it according to the rules laid down by Dr. Mackenzie. Whatever its nature may be, local treatment certainly does a great deal of good, especially in children. I prefer chromic acid, which, together with tonic treatment and the application by the patient of a spray of a two-per-cent. solution of cocaine, gives great relief, if it does not actually abort the attack. I have now a patient who has suffered all his life with the severest form of hay fever, and yet, until he consulted me, his nose had never been examined. In the right nostril I found a sharp ridge on the septum, which came in contact with the inferior turbinated body. There was a similar ridge in the left nostril, but not so prominent. With the exception of these ridges, there was nothing abnormal in either nostril in the way of hypertrophied tissue that required operative treatment. The ridges were removed, the tissues in the nose were cauterized superficially, and general tonic treatment was employed, with the result that the patient has been perfectly comfortable during the month of May, which has always been most annoying to him in previous years. His severe attack comes on in the middle of August. I doubt if we can effect a permanent cure, by either local or general measures, of the severe forms of hay fever which come on late in the season, but the treatment of the mild and early manifestations of the disease is very satisfactory.

Dr. J. Solis-Cohen, of Philadelphia: The discussion to-day has, I think, shown a tendency for the pendulum to swing in the other direction. The past three or four years it had swung well to the left; it is now coming around to the right. I think the views expressed by Dr. Mackenzie are very nearly the correct ones. It has been my experience that very few poor people, even in dispensary practice, are the victims of hay fever. I have always thought that, in addition to the neurotic element, high living had a great deal to do with it. A large majority of the patients whom I have seen have been persons who lived well, or persons who resorted more or less to stimulants to keep them up to their work. Take them to Beach Haven, or the Adirondacks, or any other place away from their work, where they can lead a lazier life, and they get relief from their nasal irritation. I have obtained benefit for such patients not only by giving them tonic treatment for the nervous system, but also by regulating their diet, permitting the use of little meat, seeing that they clothed themselves lightly, etc. I think the more we look upon the disease as constitutional and the less as local, the nearer we shall get to the truth. It is undoubtedly a fact that a large number of these sufferers have an obstruction in the nasal passages. This, of course, we need to relieve. But there is a large number of them who have no nasal obstruction whatever, and certainly I should then look to some other cause for the affection. I am glad, very glad indeed, to see that local surgical measures are not in such favor as they have been during previous years. Dr. Roe said that several of his patients were not neurotic; that they were phlegmatic. Were they intelligent people?

Dr. Roe: Most of them were in active business. Two of them were lawyers.

Dr. Solis-Cohen: There was probably a cerebral element in those cases.

Dr. Roe: As I explained in my paper, I consider the affection termed hay fever the result of an irritation produced primarily in the nasal chambers, which irritation is caused by some foreign substance brought in contact with the sensitive areas by the atmosphere. An irritation reflected to the nasal chambers from some other portion of the body is not hay fever. Dr. Mackenzie seems to include under the term hay fever all reflected irritations from any portion of the body in which the nasal passages may be involved. There may be irritation in the nose due to a disease of the nose *per se*, which is not influenced by an external irritant. This disease may give rise to a variety of manifestations, such, for instance, as supra-orbital or facial neuralgia, epileptoid convulsions, or a variety of other neurotic symptoms, but these are not to be included in what we call hay fever, because they are not produced by an external irritant brought in contact with the diseased nose through the atmosphere. It is characteristic of hay fever that, soon after the patient is removed to an atmosphere in which this external irritant is entirely absent, all the symptoms of the affection speedily disappear. Regarding asthma, which is a very frequent manifestation of this affection, I do not consider it a necessary indication of a constitutional disease, as Dr. Glasgow appears to consider it, for the reason that asthma may be excited by a variety of purely local causes. It may originate from a primary irritation in the nose, exciting an irritation in the larynx and the bronchi, and these may subsequently become centers of irritation, as I have shown in my paper. These independent centers of irritation may then be excited by other causes coming from a different source. An irritation of the gastric plexus may even be excited by an overloaded stomach, which may excite asthma in persons with a sensitive center of irritation in the larynx or the bronchi. An irritation in the ear or other remote part of the body may in some cases excite asthma, but asthma produced in this manner is not characteristic of hay fever, although, when asthma is excited by irritation in the nares, the larynx, or the bronchi by something brought there by the inspired air, it is to be included under the head of hay fever. In regard to hay fever being a neurosis, I can find no evidence from my study of the affection to convince me that a neurotic condition of the individual is necessary to render him susceptible to it. It is true that many persons of a neurotic habit have hay fever. It is also true that many persons without the slightest indication of any neurosis have hay fever. The argument that because a person has hay fever he must necessarily have a neurosis, it seems to me, is entirely without foundation. In regard to the patients' condition in life, of which Dr. Solis-Cohen has spoken, it can not be shown from the classified list of occupations which I have that it has any special effect upon the development of this affection. It is true, however, that persons who lead an outdoor life, and whose habits are such as tend to invigorate the system, suffer less often from hay fever than those who lead an indoor or indolent life, or are poorly nourished, or whose habits of life are such as to increase the excitability of the nervous system or to lower their vitality and powers of resistance to local influence. The latter are, as a rule, the most susceptible to hay fever; and in all such cases constitutional treatment is of the utmost importance.

On Certain Measures for the Relief of Congestive Headache.—Dr. W. C. Glasgow, of St. Louis, read a paper with this title (see page 260).

Dr. Mackenzie: I am glad to see that Dr. Glasgow has observed the erection of the turbinated tissues during the menstrual period. Some time ago, in an article published in the "American Journal of the Medical Sciences" (April, 1884), I stated it as my belief that a number of the headaches occurring during the menstrual period were due to congestion of the turbinated tissues, and said that I had seen this congestion occur with great regularity. I have demonstrated in a number of patients great swelling and engorgement of the turbinated tissues during the menstrual epoch, and their gradual subsidence with the cessation of the menstrual flow. It was the practice of the ancient physicians to abstract blood from the nose in fevers, and I have read somewhere that in India they were accustomed in severe attacks of acute coryza to prick the nose. Some years ago, in a paper on "Naso-aural Catarrh," read before the Medico-chirurgical Society of Maryland (1883), I advised incision of the turbinated tissues with a sharp bistoury in the treatment of acute coryza. I stated that, according to my experience, this method gave most marked relief, and I am very glad to hear that Dr. Glasgow has had a similar experience.

Dr. C. C. Rice, of New York: The class of cases to which Dr. Glasgow has drawn attention is a very interesting one. My experience with regard to treatment is somewhat different from his, and I do not agree with him as to the pathology. I have seen a great many of these cases, as probably we all have, but they are not as a rule cases in which there is marked hypertrophy of either the anterior or posterior turbinated tissues. I have found that whatever hypertrophy did exist was over the middle turbinated bone, about three quarters of the distance back, and that it pressed against the septum. This condition is present so often that I have come to look for it in this class of cases. There has not been marked congestion or redness, but simply irritative contact, with consequent reflex pains and neuralgias. With regard to treatment, I have used the galvano-cautery instead of the knife, and I have not considered it an essential point to draw blood. My results have been good. I will cite an interesting case. A girl twenty years of age, who had suffered from most intense supra-orbital neuralgias and a sensitive condition of the nose, came to me a short time ago. For four years she had been obliged to plug her nostrils constantly with cotton so that no air could pass through them. I found nothing but an enlarged middle turbinated bone; there was no congestion. I made four or five punctures with the galvano-cautery needle in the turbinated bone, and the woman was cured. I think it is sufficient in the majority of these cases to make marked counter-irritation over the affected part.

Dr. **Harrison Allen**, of Philadelphia: I can confirm Dr. Rice's opinion. While I do not at all doubt Dr. Glasgow's diagnosis, yet it is evident this is a complex subject. It seems there is abundant evidence to show that the trouble came from the turbinated tissue, but all of my cases have been of the kind Dr. Rice has described. I have found that as a rule when the septum is deflected to the left, it is at the lower part; when deflected to the right, it is at the upper part. In the place last named, contact with the middle turbinated is likely to occur. The following case illustrates several facts in this connection. The patient had a complication of disorders. She had ocular and uterine troubles, for which she had been treated by distinguished practitioners. Her headaches were of an exaggerated type. I resorted to repeated venesection of the turbinated tissues, giving temporary relief only. I then made an examination of the nostrils, introduced the finger, and separated the septum and turbinated tissues. There resulted very moderate bleeding. I found something which was very interesting. The lady was only thirty years of age, yet there was complete calcification of the triangular cartilage. The result was that her headache was completely cured. No recurrence took place. The procedure for overcoming the pressure effect may be carried out during the first stage of ether anæsthesia.

Dr. **C. E. Sajous**, of Philadelphia: I have not the least doubt that Dr. Allen's theory in question is well founded in many cases, but I am rather inclined to think that headaches originating in the nasal cavities are frequently due to hyperæsthesia of the nasal mucous membrane. I have had proof of that many times by the results obtained after cauterizing the mucous membrane and thus overcoming the hyperæsthesia. I think also that Dr. Glasgow's treatment rather demonstrates that fact. By depleting the cavity we reduce pressure upon the nerves, and thus lessen the hyperæsthesia. We have been told by Dr. Mackenzie that he makes a few small incisions in the nasal membrane in hay fever; certainly the cicatrices, by contracting, limit the amount of blood, and diminish hyperæsthesia. The effect of the cotton plug in Dr. Rice's case might be explained in the same way. I think that in the majority of cases hyperæsthesia is the main cause of the headache.

Dr. **F. H. Bosworth**, of New York: It seems to me that the correctness of the view that contact in the nose constitutes a pathological condition might be called in question. Certainly in a large proportion of cases in which I find contact between the turbinated and septal tissues I am unable to trace symptoms to that condition. There is no analogue in the human economy where mucous surfaces coming in contact with each other thereby act as centers of irritation. The mucous surfaces of the urethra, vagina, intestines, etc., come in contact with each other without constituting pathological conditions. Some of the gentlemen speak of establishing a cicatrix in the mucous membrane of the nose. I have never seen it. The mucous membrane, when cut, heals up kindly under healthy conditions, and leaves no cicatrix. As to conditions of the nose which may cause headache, I think we can certainly say, and should go no further, that it is our duty to place the nostrils in a normal condition, to restore their healthy function. But that would open up a question which it is not necessary to enter upon here. But I think we can say that we restore healthy action in the mucous membrane of the nose, and it is not a question simply of destroying tissue or of creating a cicatrix. We do not destroy tissue with caustics. We restore healthy nutrition in the mucous membrane by reducing the amount of blood-supply, which is the object of the application of caustics, not the destruction of tissue.

Dr. **Allen**: I should agree with Dr. Bosworth as to restoring the normal functions of the nose, but, as I understand the normal condition, there must be no contact between the mucous surfaces, any more than there should be contact between the parts of the Eustachian tube. We all agree that contact in the Eustachian tube is abnormal. The nasal cavity is a respiratory passage as well as the seat of olfaction, and if it is a respiratory passage it must be kept open. Anything which occludes the nose destroys its function. If our conception of function is at fault, then the clinical application is wrong; but, so long as the nose is a respiratory chamber, contact is injurious to its efficiency. I should be unwilling to give this up. Argument by analogy of the behavior of the mucous surfaces in the urethra and vagina seems remote from the subject.

Book Notices.

Abdominal Surgery. By J. Greig Smith, M. A., F. R. S. E., Surgeon to the Bristol Royal Infirmary; Late Examiner in Surgery, University of Aberdeen, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii–606. [Price, $5.]

The rapid and most gratifying progress made during the last few years in the treatment of diseases of the abdominal viscera by operation has made it evident that within a very short time the necessity would arise for a careful review of the immense mass of material accumulated during this period in medical journals and monographs, and a systematic rearrangement of the facts and descriptions of operative procedures, new and old, which are of interest in connection with this branch of surgery. Herein lies the *raison d'être* of the work under consideration, and no one can rise from its careful perusal without feeling that its author has been singularly happy in his method and manner of performing his task. As it stands, the book is a compendium of our present knowledge of the subjects of which it treats, and is a model of conciseness without the sacrifice of necessary detail, and clearness of description without verbosity.

The author has fully prepared himself for his work by the study of ancient and recent writers and authorities, and the application of selected methods in the operating-room and at the bedside, and from his experience is entitled to speak *ex cathedra*, as he sometimes does. The arrangement is a very useful one, a history of the operation under discussion, with a short study of the normal and diseased anatomy of the organ involved, accompanying each section. A careful consideration of symptoms, statistics, and different matters as affecting prognosis leads up to the discussion of treatment, which is always based upon clearly defined and well-defended principles, *not* always, however, in accord with ordinary usage. The author believes in thorough and complete asepsis, and his use of antiseptics is based upon a clear appreciation of their exact value as preventives of septic dangers. His description of the technique of an operation, and his simple but very pronounced views as to the after-treatment of some of the most serious manipulations, will make his work valuable to every surgeon, while the student will find in it much that is of value, arranged for ready reference, in the bibliography which closes the work; while both will agree with the author that "abdominal surgery is no longer a field for legitimate and versatile experiment; certain fixed and useful laws and customs have been laid down by the dearly bought experience of great men; the abdominal surgeon ought to begin fully equipped with such knowledge as has been gathered for him."

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning. A Manual for the use of General Practitioners. By WILLIAM PAUL SWAIN, F. R. C. S., Surgeon to the South Devon and East Cornwall Hospital, etc. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xvi–216. [Price, $1.50.]

THIS little manual is a compilation from larger works, aiming to give directions to guide the practitioner in dealing with the emergencies he may meet with. But the author has included so many subjects which can hardly be considered as involving emergencies that the directions given are as a rule meager and insufficient. The extraction of a luxated lens, iridectomy, and the enucleation of an eyeball are too delicate operations to be performed at a moment's notice by a tyro in ophthalmic surgery. Ophthalmia, ulcer of the cornea, iritis, and glaucoma are hardly to be considered as surgical emergencies. If the space given to such subjects as these and to the major operations, such as resections, had been devoted to a more complete description of the course to be followed in real emergency cases, the work would have been much more valuable. Some of the statements sound very strange. Speaking of dislocations at the shoulder joint, the author says that anæsthesia is necessary for reduction by manipulation, and that without anæsthesia the best method is with the heel in the axilla. Every ambulance surgeon knows that this is not so. In the majority of recent dislocations at the shoulder joint, reduction by manipulation is far easier and less painful than the time-honored Cooper's method. A careful description of Kocher's method of reducing subcoracoid dislocations would have been of more value to the profession at large, as teaching the best method of reducing one of the commonest forms of dislocation, than the few general remarks the substance of which is given above, which comprise all the author has to say on the subject.

The treatment of nasal catarrh by the nasal douche—*i. e.*, by passing a stream of medicated water up one nostril and allowing it to return by the other—is now decried because of the danger of causing serious ear disease by the passage of some of the liquid up the Eustachian tube. But in this work it is recommended to remove foreign bodies from the nose by passing a stream of water up the opposite nostril, that it may return behind the foreign body and eject it. The chapter on poisoning is very good.

Massage as a Mode of Treatment. By WILLIAM MURRELL, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 138. [Price, $1.50.]

IN nine months this valuable little work has arrived at the third edition. It has been considerably enlarged, and the chapter on "Massage in Poisoning" has been rewritten. It contains a large amount of information on a subject only too little understood in this country, and will well repay any one who carefully reads it.

BOOKS AND PAMPHLETS RECEIVED.

Pulmonary Consumption; its Ætiology, Pathology, and Treatment, with an Analysis of 1,000 Cases to exemplify its Duration and Modes of Arrest. By C. J. B. Williams, M. D., LL. D., F. R. S., etc., and Charles Theodore Williams, M. A., M. D., Oxon., etc. Second Edition, Enlarged and Rewritten. By Dr. C. Theodore Williams. With Four Colored Plates and Ten Woodcuts. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx–446. [Price, $5.]

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar, Accoucheur to, formerly Interne in, the Maternity Hospital, etc. Translated by Henry D. Fry, M. D. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vii–8 to 175. [Price, $1.75.]

Syphilis. By Jonathan Hutchinson, F. R. S., LL. D., Consulting Surgeon to the London Hospital, etc. With Eight Chromo-lithographs. Philadelphia: Lea Brothers & Co., 1887. Pp. xii–532. [Price, $2.25.]

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning. A Manual for the Use of General Practitioners. By William Paul Swain, F. R. C. S., Surgeon to the South Devon and East Cornwall Hospitals, etc. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xvi–229. [Price, $1.50.]

Massage as a Mode of Treatment. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 143. [Price, $1.50.]

Experiments in regard to the Supposed "Suction-Pump" Action of the Mammalian Heart. By H. Newell Martin, D. Sc., M. D., Professor in the Johns Hopkins University, and Frank Donaldson, Jr., B. A., M. D., etc. With Plate V.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of Cutaneous and Venereal Diseases."]

The Systematic Training of Nursery Maids. By Samuel S. Adams, A. M., M. D., Professor of the Theory and Practice of Medicine in the National University, Washington, D. C. [Reprinted from the "Journal of the American Medical Association."]

The Necessity of Quarantine. By S. T. Armstrong, M. D., Ph. D., Passed Assistant Surgeon, U. S. Marine-Hospital Service, etc. [Read by request before the Tennessee State Medical Society.]

Dermatitis Venenata: an Account of the Action of External Irritants upon the Skin. By James C. White, M. D., Professor of Dermatology, Harvard University; Physician to Out-Patient Department for Skin Diseases, Massachusetts General Hospital. Boston: Cupples & Hurd, 1887. Pp. 9 to 216.

Lectures on the Surgical Disorders of the Urinary Organs. By Reginald Harrison, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, etc. Third Edition, Rewritten and Enlarged. London: J. & A. Churchill, 1887. Pp. xi–583.

The Treatment of Hæmorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M. D., Physician to St. Elizabeth's Hospital, etc. The Echo Music Co.: Lafayette., Ind., 1887. Pp. 9 to 63.

Gastritis gravis acuta in frühen Kindesalter. Von Dr. A. Seibert, Kinderarzt am deutschen Dispensary in New York. (Hierzu eine Curven-Tafel.) [Separatabdruck a. d. "Jahrbuch für Kinderheilkunde."]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

BY GEORGE THOMAS JACKSON, M. D.

Verbascum in Diseases of the Skin.—Laschkewitch, of Charkow, says ("Vierteljresschr. f. Derm. u. Syph.") that in the southern part of Russia this plant is much used in the treatment of itching diseases of the skin. His assistant cured a case of eczema marginatum with it in four days, the case previously having proved very obstinate to treatment. It is used in the form of a rather strong infusion of the flowers, and is applied three or four times a day to the diseased part. It shows its healing qualities on the second day.

Cocaine in Zoster and Pruritus Ani.—Bianchi recommends ("Lo sperimentale") repeated pencilings of the affected part in zoster, and in pruritus of the anus and genitals, with a three-per-cent. solution of cocaine.

Zoster and Phthisis Pulmonalis.—Dr. Barie draws attention to the frequency of neuralgic pains in chronic tuberculosis, and says ("Gaz. hebdom. de méd. et de chir.") that zoster should be regarded as one of the less frequent of these neurotic affections. He reports three cases of zoster in phthisical subjects, occurring in the region of the perinæum and external genitals. Zoster may occur on any other part of the body, but, whatever may be its seat, it has one of two origins: either it arises from a tubercular meningo-myelitis, or more frequently it is the consequence of a peripheric parenchymatous neuritis.

Dermatoses from Moral Shock.—By this term Leloir ("Ann. de derm. et de syph.") means various diseases of the skin caused by moral shock, which, in subjects not predisposed to diseases of the skin, may be only passing, but in those having such predisposition may become very intense. He instances the following dermatoses as at times belonging to this class: Anæmia and hyperæmia of the skin, urticaria, purpura, eczema, psoriasis, herpes, pemphigus and allied bullous diseases, vitiligo, and alopecia areata. The clinical characteristics of these dermatoses are the following: Their sudden onset after the nervous shock, either preceded or not by diverse nervous troubles — such as pruritus, neuralgia, etc.—their superficial seat, excessive itching or neuralgic pains, their relatively short duration, and their more frequent occurrence in women. As preventive treatment, he advises the avoidance of fatigue and excesses of all sorts, attention to hygiene and proper exercise, a tonic but not exciting diet, early hours for retiring and rising, abstinence from tea and coffee, and the use of arsenic, bromides, and the douche. In the treatment of the eruption, nervous sedatives should hold a prominent place.

A New Treatment for obstinately recurring Eczema.—Crocker ("Brit. Med. Jour.") has found counter-irritation by means of mustard or stronger applications of great service in treating recurrent eczemas, and reports several brilliant cures. He varies the location for the counter-irritants according to the part affected by the eczema. Thus, for the face alone, it is behind the ears; for the face and forearms, on the nape of the neck; about the genitals and legs, over the lumbar region; and if only one leg is affected, on the hip over the great sciatic nerve. The proper treatment for the eczematous patch is to be continued at the same time.

The Ætiology and Treatment of Impetigo, Furunculosis, and Sycosis.—These three diseases are regarded by Bockhart ("Monatshft. f. prakt. Dermat.") as caused by the same parasite, and, therefore, as different forms of the same disease, the varying appearances presented by them being due to the varying locations of the parasite in the skin. The impetigo of our author is that of Wilson—a pustule from the start, and not developed from papules or vesicles. These pustules are small and discrete; the areola about them is small or wanting, and they are seated by preference upon the extremities and nates. Furuncles not infrequently complicate the eruption. Besides this form, Bockhart recognizes an accidental form arising in the course of pruriginous diseases. Neither impetigo contagiosa nor impetigo herpetiformis is included in the paper. After repeated microscopical examinations of the pus from the pustules of impetigo, furuncles, and sycosis, and by making pure cultivations of the organisms found in the same, our author has determined that the *Staphylococcus pyogenes aureus* and *albus* are always present, and he believes them to be the cause of the eruption of one and all the forms. He has also experimented upon himself with cultivations of these bacteria, and produced impetigo, furuncles, and an abscess, and has made sections of portions of skin from his own arm affected with the pustules of inoculation. In this way he has found that the staphylococcus gains entrance to the tissues of the skin through the mouths of the sweat-ducts, sebaceous glands, and hair-follicles, and through any part of the skin deprived of its epithelium. Having gained entrance into the skin, the micrococci increase and grow in the walls of the sweat-ducts, in the sheaths of the sebaceous glands and hair-follicles, and in the adjacent cells of the stratum Malpighii. By their presence and growth they set up inflammation, accompanied by the production of pus-cells, which finally destroys the cocci, and the disease is recovered from.

Furuncles develop from impetigo pustules which have formed over hair-follicles and sweat-ducts. They may also develop without an impetigo pustule, and from impetigo pustules not in connection with a gland-duct or hair-follicle. If the cocci go deep into the cutis, an abscess form will form. In sycosis the pustule formation is preceded by a papule. The different course of this affection is due to the modifications of the skin on account of the coarse hairs.

As to the manner in which the cocci cause these eruptions, we must recollect that the staphylococcus is widely distributed; it has been found in dish-water, in the superficial layers of decayed vegetable matter, in the swaddling clothes of healthy infants, in the dirt collected from under the finger-nails, upon the skin of healthy men, in the discharge from the nose of a nasal catarrh, etc. From these sources it may readily reach the skin, and in predisposed individuals give rise to impetigo or furuncles. The occurrence of the staphylococcus in the discharge from the nose readily explains the frequency with which sycosis of the upper lip is met with in these cases.

In the treatment we are advised as much as possible to aid Nature in getting rid of the cocci. Her method is to produce pus, and discharge the contents of the pustules upon the skin. We should open all pustules and disinfect them with a one- to two-per-cent. solution of the bichloride of mercury. Pastes, ointments, and powders are all bad, as they interfere with the free discharge of the pus. In sycosis, epilating and bathing with the sublimate solution is regarded as the best treatment, and frequent application of the same solution to the upper lip acts as a prophylactic. Furuncles we are advised to treat upon the old plan, as injections of antiseptics are painful, and their external application is useless. Neither in impetigo nor in furuncle is prophylaxis practicable.

The Pathology of Lichen Ruber.—Köbner, from a study of fifty-two cases, endeavors ("Berl. klin. Woch.") to throw some light upon the dark subject of the pathology of lichen ruber. His statistics show that two thirds of the cases occur in men, and that the majority of the patients are between twenty and forty years of age. Most of his cases were of the lichen ruber planus variety, only two being lichen ruber acuminatus of the whole body. He believes that the disease is of neuropathic origin. The majority of his lichen patients complained of intense itching, and were nervous individuals with a great variety of nervous symptoms. A number of patients had urticaria either preceding or following the outbreak of the disease. In some cases the eruption plainly followed the course of certain cutaneous nerves; in some there was a marked increase of irritability of the vaso-motor nerves of the skin; in others the outbreak of the eruption was preceded by a diffused redness of the skin and a feeling of heat in it.

The Treatment of Keloid.—Gurfard (Thèse de Paris; "Monatshft. f. prakt. Dermat."), from a study of the treatment of keloid, concludes that the best method is extirpation followed by compression in cases in which the tendency to keloidal formations is not strongly marked. Multiple scarifications render good service, and at once lessen the pain attendant upon these growths. They must be made regularly and at certain intervals, and must be continued until the induration has completely disappeared.

The Relations of Tuberculosis to Onychia Maligna.—True onychia maligna is, according to E. v. Meyer ("Archiv. f. path. Anat. u. Physiol. u. f. klin. Med."), that condition in which a single nail is affected, and the inflammation refuses to yield to well-directed treatment. It is dependent for its malignancy upon tubercular infection following some injury, which may be very slight. For two or three weeks the patient experiences pain in the affected part; then the inflammation begins under the free edge of the nail; the pain increases so that sleep is disturbed; the part is red and the nail-bed swollen; an ulcer develops that creeps along the side of the nail till it reaches its lunula or root, and at last the nail falls off. The ulcer is usually covered with bloody pus, and resembles a diphtheritic ulcer without its phagedenic character. The ulcer remains stationary for an indefinite time in spite of internal and external treatment—it may be for three or more years—without attacking the periosteum and bone, or spreading beyond the ungual phalanx. The treatment should consist in obtaining a clean, nicely granulating wound surface by using, locally, corrosive sublimate, carbolic acid, and iodoform, and giving remedies internally to build up the constitution of the patient.

The Treatment of Leprosy.—Lutz, at the end of a long paper upon leprosy that has appeared in the "Monatshefte für prakt. Dermatologie," cautions against drawing too favorable conclusions as to the efficacy of strychnine, electricity, and some other remedies in the treatment of this disease, since slight cases of the nervous and macular forms often spontaneously become better, if not entirely well. Lutz regards the systematic use of pyrogallol and chrysarobin, according to Unna's method, as the most useful therapeutical means at our command. These drugs may be used together or separately, on the same part of the body or on different parts at the same time. They have mostly a local effect, and cause the disappearance of old nodules in two or three months, and after the continuance of their application there is little tendency for relapse in the same place. The long-continued use of these drugs is often followed by loss of flesh and symptoms of anæmia. Lancinating pains in the extremities are slowly lessened by the use of these drugs; the anæsthesia is reduced, the œdema is discussed, and the palpable nodules on the nerves disappear. Cure results in some cases. Acute macular forms are more rapidly cured than those of the tubercular variety. The efficacy of the treatment is enhanced by the internal use of salicylate of sodium, giving two drachms in four doses at four hours' interval. This is better borne if given in combination with bicarbonate of sodium. Thymol, from forty-five to sixty grains a day, also is a useful adjunct.

Parasites in Variola.—In the "Monatshefte für prakt. Dermat." appear two papers dealing with parasites recently demonstrated by the respective authors as found in variola pustules. Neither of these investigators asserts that the micro-organisms discovered by him are the cause of variola. Dr. Pfeiffer places his parasite among the *Sporozoa* of Leuckart, though it is not identical with any species described by the latter. Its development is similar to that of the cocci and the free gregarines up to the moment of the separation of the spores. It is a single-cell parasite of round or oval form. When fully developed it is brownish-yellow in color, and may be thirty-three μ long and twenty-four μ wide or less. At different stages of its development it presents different appearances, all of which are noted in the article before us, and fully illustrated in the accompanying plates. In the early stage of its development it is endowed with amœboid movement, and in the very earliest period of its existence it makes lively dancing movements. It propagates by the formation of spores. This parasite has been found in the pustules of variola, of cow-pox, and of vaccinia, as well as in those of herpes and varicella. The other parasite is described by Dr. van der Loeff as found by him in two cases of confluent small-pox. It is relegated by him to the *Amœbæ*. His illustrations show the parasite so well that he does not describe it.

The Biology of Favus.—Boer, of Berlin, contributes to the "Vierteljschr. f. Derm. und Syph." an interesting study of the development of the *Achorion Schoenleinii*, as derived from favus affecting mice. From a favus-cup pure cultivations were made, from which at different stages other mice were inoculated, with the constant result of producing a high grade of favus. His procedure was as follows: A minute piece of favus crust was mixed with fluid meat peptone-gelatin, poured out on plates and treated in the usual manner. After three or four days there was an evident drawing in of the gelatin about the crust. By a lens of low power, mycelia could be seen spreading out like rays from the center of the crust into the gelatin. Some of these mycelial threads were further cultivated in gelatin or agar-agar. The parasite developed rapidly on the agar-agar; more slowly on the gelatin. After about four weeks the gelatin became fluid, and the parasitic colony swam like a cap upon the gelatin. From this a new cultivation was made, and from time to time microscopically examined. After six to twelve days, according to the temperature, he saw on the extremities of a few mycelial threads the development of fructification organs of two varieties. In one variety a round bud developed on the end, and to one side, of a mycelial thread; this latter became clearer and more transparent, till, apparently by a chemical process, it melted away and the spores lay free. In the other variety, club-shaped swellings appeared on the ends of the main mycelial trunk and lateral branches, which shortly were marked by partitions. Round spores were seen to issue out of two compartments of one of these partitioned cells.

Resorcin in Acute Gonorrhœa.—Lychowski ("Vrtljschr. f. Derm. und Syph.") reports six cases of acute gonorrhœa cured within six days by injections of a two- to three-per-cent. solution of resorcin. The injected fluid must be worked by the fingers into the deeper parts of the urethra.

The Pathology of Chronic Urethritis.—In the same journal, Oberländer and Neelsen enthusiastically advocate the use of the endoscope with the electric light, as made by Leiter, of Vienna, after the suggestions of Nitze, in the study of diseases of the urethra. A lengthy description of the apparatus and manner of using it is given. It is by the help of this apparatus that the authors of this paper made their study; they also made numerous examinations of the urethræ of dead bodies. In chronic urethritis the inflammation affects sometimes the glands of Tyson, sometimes the tissues surrounding them, and sometimes both glands and tissues. Besides these glands, those of Cowper are also diseased, as well as the lacunæ of Morgagni. In the normal condition of the urethra neither the lacunæ nor the glands of Tyson are visible to the naked eye, but in chronic urethritis their mouths may be readily seen as points of various size and color upon the mucous membrane, arranged in groups of five to twenty or more. The contiguous parts of the mucous membrane may be of a bright inflammatory red; they may appear cicatricial or hæmorrhagic; or the gland openings may lie in a red, swollen, soft, mucous membrane which covers them, with an easily bleeding or granulating surface; or they may be surrounded with a rigid infiltration so that they appear crater-like in the mucous membrane. On the other hand, at times the mucous membrane presents hardly any alteration, which indicates either that the inflammatory process is of slight intensity, or that the stage of complete cicatrization is near at hand. The grouping of the glands follows no particular rule. In some very mild, though chronic, catarrhs of the urethra the mucous membrane only is affected, and will appear with the endoscope as a zone of altered color.

Oberländer's division of urethritides is as follows: 1. Mucous catarrhs, of which he makes two varieties—urethritis mucosæ hypertrophica, and catarrhalis. 2. Glandular, infiltrative, inflammatory forms, the varieties being u. granulosa falciformis, u. glandularis—(*a*) u. glandularis circumscripta, (*b*) u. glandularis proliferans, (*c*) u. glandularis hypertrophica, (*d*) u. glandularis stringens—and u. follicularis sicca and stringens. These are all treated of at too great length for us to do more than indicate them here. His *u. mucosæ hypertrophica* presents a mucous membrane which is reddened, deeply inflamed, swollen, dull-looking, and without blood-vessels upon its surface. The inflammation is readily set up on slight provocation. His *u. m. catarrhalis* is drier; the mucous membrane is less swollen, and the natural folds are often visible. This form often passes over into the glandular, infiltrative, inflammatory form. *Urethritis granulosa falciformis* is that form of chronic urethritis in which the inflammation which causes the formation of stricture is located in the upper layers of the mucous membrane and to a certain extent about the glands. The mucous membrane is colored deep-red, is dull, bleeds easily, preserves indications of its natural folds, and is dotted over with hypertrophic and sometimes hæmorrhagically colored glands. In the field of vision is seen a sharply defined wall of dull bluish-red granulations, from 2 to 5 mm. long and generally occupying only half the circumference of the urethra. Its summit is yellowish or yellowish-red and evidently cicatricial. This form of stricture formation is very rare, and requires more than two years for its development. *U. glandularis* is that variety of chronic urethritis in which the inflammation affects particularly the glands, the mucous membrane being also implicated. It has four forms: (*a*) *u. g. circumscripta*, in which from eight to ten glands of Tyson lie in a somewhat raised, smooth mucous membrane. If the surrounding membrane is pale, the affected places seem red; if it is redder than normal and swollen, the places have a paler, more glassy look; if cicatrization is near, they appear as small, irregularly formed cicatricial spots lying beneath the epithelium, with the mouths of the glands forming small, blackish points scattered about between them. (*b*) *U. g. proliferans* has the same infiltrative character as the variety just preceding, only the infiltration is more even and spread out, in some cases half or more of the pendulous urethra being affected by the inflammation. The affected part is almost always bounded by a smaller zone resembling what is found in u. g. circumscripta. The mucous membrane is pale-red, slightly granular, and somewhat swollen, with hypertrophic glands scattered about. The swelling is often at and behind the meatus, which makes the lips hard to the touch and causes them to gape. The middle of the affected region is uneven and of a grayish-yellow color on account of an epithelial proliferation and desquamation. Here and there are bare places from the size of a pin-point to that of a lentil, which are quite near together, through which the corium appears as blood-red spots. The rest of this middle zone is made up of smooth cicatricial tissue of a yellow or gray-red color. In course of time fine blood-vessels develop upon this zone, and the normal luster returns. Relapses of inflammation occur at times. This variety of urethritis may develop within three to six months after infection. (*c*) *U. g. hypertrophica* may follow the preceding form. It is characterized by a deep parenchymatous infiltration of the entire mucous membrane with its glands, causing a marked tumefaction of the part, and a narrowing of the lumen of the urethra. In the less pronounced cases the mucous membrane is of a pale rose-color, and deficient in luster. In some places there are fine granulations and glassy swellings, also disseminated eroded places where the epithelium is lost, with some bleeding points, or only the red spots of the corium below. The mucous membrane is irregularly uneven, with groups of glands showing in the raised parts, around which the parts are red and swollen. In some cases we see evidences of cicatrization, not infrequently in the form of well-marked circular cicatrices about single glands. Relapses are very frequent. This condition may appear six months after infection, and many years may elapse before the process ends in spontaneous cicatrization. The more pronounced form of this variety of urethritis is accompanied by a deep and thick infiltration of the mucosa, and not only that, but it also involves the adjacent parts of the corpus cavernosum. In the endoscopic examination of this variety the simple form is usually first encountered; then the lumen of the urethra becomes narrower, the mucous membrane appears thicker, and its longitudinal folds have disappeared. The urethra is changed into a stiff tube. Blood-vessels are no longer visible, and the surface of the mucous membrane is covered with fine granulations. This zone of granulating membrane is pale reddish-yellow to mother-of-pearl in color; it has lost its luster, no glands can be found in it, and it has lost its elasticity so much that it tears on the passage of the endoscopic tube, and bleeds more or less freely. It begins and ends gradually, shading off into the adjacent parts. Such a zone can be felt from without as a hard string in the urethra. The thickness of the cicatrix which follows it is in proportion to the depth of the infiltration, and it is in the form of a net. Relapses of inflammation are common. (*d*) *U. glandularis stringens* is the most intense stage of this form of inflammation, and leads inevitably to stricture. *U. follicularis sicca* is accompanied by closure of the mouths of the glands, and the formation of follicles. At first, when only a few glands are affected, they may be felt from without as pin-head- and millet-sized masses; with the endoscope they appear as pale, raised, lusterless spots, with a minute central depression. A more pronounced form shows more of these spots in groups, and subsequently a small areola of infiltration develops about the gland follicle, and the whole group has a surrounding zone of infiltration. This form usually affects the whole circumference of the urethra, and causes a decided narrowing of its lumen. The affected part is pale-rose, brown, or grayish-rose in color, covered with a dirty grayish-brown, greasy substance; the mucous membrane is deficient in luster, though smooth, and generally without erosions; and there are no gland openings to be seen. *U. follicularis stringens* is marked by the formation of elevations and depressions of cicatricial tissue, with red spots and dilated anastomoses of blood-vessels between them, and one half or the whole of the circumference of the urethra is affected. This area is markedly dry, and offers a hindrance to the passage of the endoscope, though it does not bleed. Sometimes the stricture formed by this variety of urethritis is so tight that the endoscope can not be made to enter it. It probably takes years to form.

Clinically, all these forms, excepting the first two, present the same features in regard to the secretion. The discharge of the mucous forms is gray, thin, creamy, becoming yellow and green on irritation. The other forms have a purulent secretion, at times becoming more profuse. The disappearance of the discharge indicates cicatrization of the part. Pain is usually absent. Interference with the stream of urine is in proportion to the strength of the muscles of the bladder and the narrowing of the urethra.

The Chancre-like Syphiloma of the Genitals.—By this term Leloir would indicate lesions which simulate the primary lesion of syphilis. Declercq (Thèse de Lille; "Monatshft. f. prakt. Dermat.") says that this syphilide may appear before or after the secondary lesions; it may become absorbed, or it may ulcerate. Its causes are mechanical or diathetic. It appears upon the cicatrix of the initial lesion; it may assume the characteristics of a gumma; it may become phagedenic. It is diagnosticated from the initial lesion by the induration preceding the ulceration. It may appear alone as a new deposit of the virus upon the site of the initial lesion; it may precede a new outbreak of syphilis. It is contagious in the early period of the diathesis, and becomes less so with the age of the same. It has probably been mistaken for an initial lesion of reinfection, and some cases of so-called malignant precocious syphilis are, doubtless, those in which late lesions have followed a chancre-like syphiloma.

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Miscellany.

Stooping Forward.—Under this caption, the "Lancet" says: "Every one knows that stooping forward, particularly after rising quickly from bed in the morning, when the stomach is empty and the heart has less than ordinary support from the viscera below the diaphragm, is very apt to occasion a form of faintness with vertigo not unlike that which occurs in sea-sickness. We do not at the moment speak of the faintness and giddiness from cerebral anæmia, which are directly consequent upon suddenly assuming the erect, after long continuing in the recumbent, posture, but of the more alarming sensation of being in the center of objects which are rapidly passing away, usually from left to right, with loss of power to stand or even sit, and an almost 'nightmare' feeling of inability to call for help or do anything to avert a catastrophe, while throughout the experience the sufferer retains painfully acute consciousness. This, we say, is familiar as one at least of the effects not uncommonly produced by stooping forward under the special conditions indicated. With many other varieties of the vertigo consequent upon heart weakness or cerebral anæmia, observation or experience has made us all acquainted. We can not, however, help thinking that the consequences of even partial compression of the veins of the neck, offering an obstacle to the return of blood from the head, with its important organs, are not so well recognized. The peculiar form—or, more accurately, the several forms—of headache distinctly caused in this way when the head is long bowed forward on the chest, bending the neck on itself, can not fail to occur to every one; nor will the high tension of the eyeball, the turgid and heavy eyelids, the snuffling nose, the deafness, with buzzing or throbbing in the ears, the heavy breathing, and the puffed and perhaps flushed or darkened color of the face, resulting from the obstructed venous circulation through the bended neck, be forgotten. There are other and more perilous, though secondary, effects of leaning forward when the heart is weak, or the blood-vessels are not so strong as they ought to be, which should not be overlooked. Beyond question the extra strain thrown upon the apparatus of the circulation by anything that impedes the free passage of blood through almost any part of the venous system is more severe and dangerous than a *physically* equal strain thrown on the arteries. At least, this is so in adult life, and, without going further into details in connection with the *modus operandi* of the mischief to which we point, it may be permissible to urge that the subject is one to which attention may be usefully directed. The weakly, and those who are not unlikely to have hearts readily overburdened, and blood-vessels easily stretched beyond recovery, or even ruptured, should be warned quite as earnestly against suddenly assuming, or too long retaining, postures which do—however slightly and partially—impede the return of blood through the veins. We know how prolonged sitting may cause the veins of the legs to become distended, and either give way or permit the extravasation of their contents. When this sort of thing happens, even though in comparatively trifling degree, in the case of vessels directly connected with such delicate organs as the eye, the ear, and the brain, it is easy to see that the results may be very serious in their character; and, probably, few postures commonly taken up by persons who lead somewhat sedentary lives are so prone to do mischief unnoticed as that of 'leaning forward,' as at work at a table which is not sufficiently high to insure the head being so raised that the veins of the neck may not be in any way compressed or the return of blood from the head embarrassed or delayed. We see reason to believe that if this apparently small matter were more generally understood, there would be fewer head and heart troubles, and we will go so far as to say that some lives now lost would be saved."

The Health of Boston.—During the week ending Saturday, August 27th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 8 cases and 7 deaths; scarlet fever, 13 cases and 2 deaths; typhoid fever, 32 cases and 5 deaths; measles, 3 cases and 2 deaths. There were also 28 deaths from consumption, 1 from pneumonia, 5 from whooping-cough, 9 from heart disease, 8 from bronchitis, and 7 from marasmus. The total number of deaths was 207, which was an increase of 28 over those in the corresponding week last year. There were 80 deaths of children under five years of age.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending August 25th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 6th corresponded to an annual rate of 22·9 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Brighton, viz., 13·2, and the highest in Preston, viz., 39·3 in a thousand. Small-pox caused 1 death in Sheffield.

London.—One thousand seven hundred and fifty-nine deaths were registered during the week ending August 6th, including 34 from measles, 25 from scarlet fever, 7 from diphtheria, 81 from whooping-cough, 10 from enteric fever, 1 from typhus, 436 from diarrhœa and dysentery, and 9 from cholera and choleraic diarrhœa. There were 158 deaths from diseases of the respiratory organs. Different forms of violence caused 51 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 21·8 in a thousand. In greater London 2,222 deaths were registered, corresponding to an annual rate of 21·4 in a thousand of the population. In the "outer ring" 138 deaths from diarrhœa, 11 from measles, and 9 from whooping-cough were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending August 6th in the sixteen principal town districts of Ireland was 24 in a thousand of the population. The lowest rate was recorded in Armagh and Sligo, viz., 0, and the highest in Waterford, viz., 32·4 in a thousand.

Twenty-three thousand three hundred and ten deaths were registered in Ireland during the quarter ending June 30th, including 294 from measles, 211 from scarlet fever, 142 from typhus, 345 from whooping-cough, 68 from diphtheria, 156 from enteric fever, 102 from simple continued and ill-defined fever, 230 from diarrhœa, 2 from simple cholera, and 1 from hydrophobia. The average annual death-rate for the quarter named was 19·3 in a thousand.

Dublin.—Two hundred deaths were registered during the week ending August 6th, including 16 from measles, 3 from whooping-cough, 4 from scarlet fever, 1 from diphtheria, 2 from enteric fever, 28 from diarrhœa, and 1 from dysentery. Diseases of the respiratory organs caused 17 deaths. Two accidental deaths were registered, and in twenty-eight instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29·5 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 6th corresponded to an annual rate of 17·1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 10·6, and the highest in Paisley, viz., 28·2 in a thousand. The aggregate number of deaths registered from all causes was 428, including 7 from scarlet fever, 1 from small-pox, 9 from fever, 6 from diphtheria, 22 from whooping-cough, and 28 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 30th, corresponded to an annual rate of 28·4 in a thousand. The lowest rate was recorded in Münster, viz., 11·5, and the highest in Görlitz, viz., 45·3.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,200, corresponded to an annual rate of 21·8 in a thousand. The lowest rate was recorded in Groningen, viz., 16·7, and the highest in Maastricht, viz., 37·4.

Marseilles.—One thousand and fifty-four deaths were registered during the month of July, 1887, including 2 from cholera (sporadic), 4 from small-pox, 59 from enteric fever, 3 from scarlet fever, 39 from diphtheria, and 46 from measles.

Valletta.—The lieutenant-governor, in a communication to the United States consul, under date of August 2d, stated that "two fatal cases of the disease declared by the board of health to be cholera have taken place here within the last thirty-six hours. All precautions have been taken to prevent the spread of the disease."

Gibraltar.—The colonial secretary informed the United States consul, under date of August 3d, that "consequent upon the appearance of cholera at Malta, a quarantine of ten days has been imposed at this port on all arrivals from that place."

Havana.—The sanitary inspector reports 13 deaths from yellow fever and 42 from small-pox during the week ending August 11, 1887.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	August 6.	2,260,045	868	..	....	3	....	12	7	23
Glasgow	August 6.	524,039	165	..	....	....	....	6	1	1
Warsaw	July 30.	439,174	214	..	....	20	....	....	....	....
Amsterdam	August 10.	378,686	149	..	....	....	....	....	....	2
Rome	June 25.	369,214	151	..	....	1	....	5	....	3
Sheffield	August 6.	316.288	162	..	....	1	....	....	3	....
Munich	July 30.	269,000	212	..	....	....	....	....	....	4
Edinburgh	August 6.	258,629	87	..	....	....	....	2	1	4
Palermo	August 7.	250,000	127	22	...	....	....	4	10	4
Belfast	August 6.	224,422	103	..	....	....	3	1	....	....
Bristol	August 6.	223,695	75	..	....	....	....	....	4	....
Genoa	August 6.	179,349	93	..	....	1	3	....	....	1
Leipsic	August 6.	170,000	68	..	....	....	....	1	....	2
Trieste	July 30.	150,157	100	..	....	2	....	....	1	1
Toronto	August 13.	120,000	13	..	....	....	....	...	....	3
Bremen	July 30.	119,000	57	..	....	....	....	....	....	2
Havre	August 6.	112,074	102	..	....	3	....	20	....	....
Gibraltar	July 31.	23,631	14	..	....	....	....	2	....	1

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two hundred and fifty-seven cases and 53 deaths have been reported up to August 23d, making an increase of 5 cases and 1 death since last report.

Egmont Key, Florida (refuge station).—All the refugees have been allowed to go to the mainland. The sick have recovered, and the island is now free from disease.

The Union Medical Association, which includes physicians in Brooklyn; New York; Harford and Cecil counties, Maryland; and Philadelphia, Dauphin, Lebanon, Lancaster, Adams, and Cumberland counties, Pennsylvania, held its annual reunion at Mount Gretna Park, Pa., on Thursday, August 25th. Dr. S. J. Rouse, of York, Pa., was chosen president; Dr. W. T. Bishop, of Harrisburg, secretary; and Dr. Alexander Craig, of Columbia, Pa., chairman of the executive committee.

The American Dental Society of Europe, as we learn by the "Journal für Zahnheilkunde," was to hold its annual meeting at Coblentz, on the 1st, 2d, and 3d inst. Among the names mentioned as those of officers of the society or chairmen of sections are E. P. George, C. T. Terry, E. A. Galbreath, W. Sachs, W. D. Miller, F. Förster, L. C. Bryan, B. Cohen, N. S. Jenkins, Charles Kingsley, W. S. Elliot, W. M. Patton, and George Cunningham.

The late Dr. Rudolph Mautner.—A special meeting of the Medical Society of the County of Richmond, N. Y., was held at the S. R. Smith Infirmary, on Wednesday, August 24, 1887, to take action in regard to the death of the late Dr. Mautner. The committee, Dr. Van Rensselaer, Dr. William C. Walser, and Dr. O'Dea, offered the following:

Whereas it has pleased the Almighty, in his infinite wisdom, to remove our co-laborer, Dr. Rudolph Mautner, from his worldly sphere of usefulness; therefore,

Resolved, That we hereby record our deep appreciation of the high personal character and professional attainments of our deceased friend.

Resolved, That we tender our heartfelt sympathy to his bereaved widow and family in their grievous loss and affliction.

Resolved, That a copy of the foregoing preamble and resolutions be sent to the family of the deceased.

[Signed.] J. Walter Wood, M. D., *Secretary*.

THERAPEUTICAL NOTES.

Amylene Hydrate as a Hypnotic.—Von Mering, of Strassburg ("Therap. Monatsh."; "Internat. klin. Rundschau"), after a number of experiments on animals with this tertiary alcohol, has used it as a hypnotic in the cases of sixty persons, giving, in all, three hundred and fifty doses ranging from three quarters of a drachm to a drachm and a quarter. He regards it as preferable to chloral hydrate in cases that do not call for a very energetic drug, for he thinks it less dangerous; he remarks also that it has several advantages over paraldehyde. In potency, half a drachm of amylene hydrate is equal to fifteen grains of chloral hydrate or three quarters of a drachm of paraldehyde. Like chloral, amylene hydrate is of uncertain action in cases of sleeplessness due to pain. It is a very mobile liquid, of a peculiar ethereal taste somewhat suggestive of camphor, with a refrigerant after-taste like that of peppermint. It dissolves in eight parts of water, and mixes with alcohol in all proportions. The following formulæ are given:

Amylene hydrate	105 grains;
Extract of licorice	150 "
Distilled water	2 ounces.

Half this quantity to be taken at bedtime.

Amylene hydrate	75 grains;
Mucilage of gum arabic	5 drachms;
Distilled water	1½ ounce.

For an enema.

Amylene hydrate	90 to 105 grains;
Morphine hydrochloride	⅓ to ½ grain;
Extract of licorice	150 grains;
Distilled water	2 ounces.

Half to be taken at bedtime, in painful affections, especially peripheral neuralgias.

Amylene hydrate	1 drachm;
Morphine hydrochloride	¼ grain;
Mucilage of gum arabic	5 drachms:
Distilled water	1½ ounce.

For an enema, to be used for the same purpose as the preceding prescription.

Cannabis Indica in the Treatment of Diarrhœa.—F. F. Bond and B. E. Edwards ("Practitioner") cite testimony from several sources as to the efficiency of Indian hemp in the treatment of diarrhœa, and state that they have used it in nearly all forms of diarrhœa with marked benefit, especially in summer diarrhœa, in conjunction with morphine. They think it increases the astringent and anodyne action of morphine and stimulates the nervous system. For an ordinary adult, they generally use the following mixture:

Tincture of cannabis	10 minims;
Solution of morphine (Br. Ph.)	5 or 10 minims;
Aromatic spirit of ammonia, Spirit of chloroform, } each	20 minims;
Water, to	1 ounce.

This quantity is be given every one, two, or three hours, according to circumstances. No food should be taken for several hours, but a little brandy and water.

Acetphenetidine as an Antipyretic.—Kobler, of von Bamberger's clinic ("Wien. med. Woch."; "Ctrlbl. f. d. ges. Therap."), describes this substance as the ethyl ether of paramidophenol, analogous in composition to acetanilide, occurring as a slightly reddish powder, odorless and tasteless, soluble with difficulty in water, rather more soluble in glycerin, and readily soluble in alcohol, especially hot alcohol, but insoluble in acid or alkaline liquids. The author considers it an efficient antipyretic destitute of any disagreeable effects. It is better to give it in single doses of seven, nine, or ten grains than in small and frequently repeated doses.

ANSWERS TO CORRESPONDENTS.

No. 33.—The device is not new. It was resorted to in the military hospitals, both north and south, during our civil war, and at the same time in one of the civil hospitals of New York. Thanks to Listerism, it is now rarely necessary.

No. 34.—Properly presented, the matter would probably be taken up by your State board of health.

No. 35.—Address him "in care of the Surgeon-General of the Army Washington, D. C."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE INAUGURAL ADDRESS
OF THE PRESIDENT OF THE
NINTH INTERNATIONAL MEDICAL CONGRESS,

NATHAN SMITH DAVIS, M. D., LL. D.,
OF CHICAGO.

Delivered on Monday, September 5, 1887, at the Opening Session of the Congress, in Washington.

[After having alluded with much feeling to the loss which the Congress had sustained by the death of the late Professor Austin Flint, who had been chosen its president, Dr. Davis proceeded as follows:]

WITH a full consciousness of my own deficiencies, and still with a heart overflowing with gratitude, I thank you for the honor you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honor that I appreciate as second to no other of a temporal nature, because it has been bestowed neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice.

Addressing myself now more directly to those here assembled, who have left homes and loved ones in other lands, and encountered the fatigue and danger of traveling by sea and by land, in the name of the medical profession of this country I welcome you, not only to this beautiful city and the hospitality of its citizens, as has been so admirably done already by the honorable representative of the Government, who has just taken his seat, but I cordially welcome you to the open arms and warm hearts of the medical men of this *whole country*, in whose name you were invited here three years since, and whose representatives are now here, side by side with you, gathered from the East, the West, the North, the South, as well as from the rugged mountains and fertile valleys of the Center, to make good what was implied in that promise.

If they do not cause you to feel at home and happy, not only in the social circles and halls devoted to the advancement of science, literature, and art in this city of our nation's pride, but wherever you may choose to roam, from the rocky coast of New England on the Atlantic to the Golden Gate of the Pacific, it will be from no want of earnest disposition to do so.

And now I not only thus welcome you from other lands, but I take great pleasure in greeting you one and all as leading representatives of a profession whose paramount object is the lessening of human suffering, by preventing, alleviating, or curing diseases wherever found, and in whatever class or grade of the human family. Nay, more, with profound reverence I greet you as a noble brotherhood, who, in the practical pursuit of that one grand object, recognize no distinction of country, race, or creed, but bind up the wounds and assuage the pains of the rich and poor, ruler and ruled, Christian and pagan, friend and foe alike.

Not that every medical man does not love and defend his own country and fireside with as fervid a patriotism as the members of any other class of men. But as disease and pain are limited to no class or country, so is the application of his beneficent art limited only by the number of those suffering within his reach.

With a common object so beneficent in its nature, and opportunities for its practical pursuit so universal, it is but natural that you should be found searching for the most effectual means for the accomplishment of the one object of lessening human suffering in every field of nature, and in every department of human knowledge.

The living human body—the chief object of your solicitude—not only combines in itself the greatest number of elementary substances and the most numerous organs and varied functions, so attuned to harmonious action as to illustrate the operation of every law of physics, every known force in nature, and every step in the development of living matter, from the simple aggregation of protoplasm constituting the germinal cell to the full-grown man, but it is placed in appreciable and important relations with the material objects and immaterial forces existing in the world in which he lives.

Hence a complete study of the living man, in health and disease, involves a thorough study, not only of his structure and functions, but more or less of every element and force entering into the earth, the air, and the water, with which he stands in constant relation.

The medical science of to-day, therefore, embraces not only a knowledge of the living man, but also of such facts, principles, and materials gathered from every other department of human knowledge as may increase your resources for preventing or alleviating his suffering and prolonging his life.

The time has been when medical studies embraced little else than the fanciful theories and arbitrary dogmas of a few leading minds, each of which became for the time the founder of a sect or so-called school of medicine, with its disciples more or less numerous. But with the development of general and analytical chemistry, of the several departments of natural science, of a more practical knowledge of physics, and the adoption of inductive processes of reasoning, the age of theoretical dogmas and of medical sects blindly following some more plausible leader passed away, leaving but an *infinitesimal* shadow yet visible on the medical horizon.

So true is this that in casting our mental vision to-day over the broad domain of medicine we see its votaries engaged, some searching for new facts and new materials; some studying new applications and better uses of facts and materials already known; some of them are in the dead-house with scalpel and microscope, not only studying the position and relations of every part from the obvious bones and muscles to the smallest leucocyte in health, but also every deviation caused by morbid action or disease. Some are searching the fields, the forests, the earth, and the air, both for more knowledge concerning the causes of disease and for additional remedial agents; some are in laboratories with crucible, test-glass, and microscope, analyzing every morbid product and every remedial agent, separating the active principles from the crude materials and demonstrating their action on living animals, while far the greater number are at the bedside of the sick and wounded, applying the knowledge gained by all other workers to the relief of human suffering. A more active, earnest, ceaseless, and beneficent field of labor is not open to your vision in any other direction or occupied by any other profession or class of men. And thus has the science of medicine become a vast aggregation of observed facts, many of them so related to each other as to permit of practical deductions of permanent value, while many others remain isolated through incompleteness of investigations, and therefore liable to prompt, hasty, or even erroneous conclusions.

Indeed, the most defective and embarrassing feature in the science and art of medicine at this time is the rapid accumulation of facts furnished by the vast number of individual workers, each pushing investigations in some special direction without concert with his fellows, and without any adequate conception of the coincident lines of observation necessary to enable him to see the true bearing of the facts he evolves. Hence he is constantly mistaking mere coincidences for the relation of cause and effect, and the pages of our medical literature are being filled with hastily formed conclusions and rules of practice from inadequate data.

This results, in part at least, from the extent and variety of the fields of inquiry and the complexity of the problems presented for solution. For nowhere else within the realms of human thought does the mind encounter problems requiring for their correct solution the consideration of a greater number of data than in the study of ætiology and pathology. To determine the appreciable conditions of the earth, air, and water of any country before, during, and after the invasion of an epidemic disease long enough to include several consecutive visits of the same, is not possible for a single individual, nor for any number of observers acting separately or without concert.

Yet just this complete knowledge is necessary to enable us to separate the conditions that are merely coincident or accidental from those that are such constant accompaniments of the disease as to prove a necessary relation between them. And it is only by such persistent, coincident systematic observations of many individuals, each having a definite part, and the results carefully compared analytically and synthetically at proper intervals, that the real conditions and laws controlling the prevalence and severity of epidemics and endemics can be clearly demonstrated. It is not enough to discover the primary infection, or the *contagium vivum*, whether it be the bacillus of cholera, yellow fever, or tuberculosis, for abundant experience has shown that not one of these will extend its ravages in any community or country unless it finds there a soil or pabulum congenial for its support and propagation.

It is on the development and diffusion of knowledge concerning the local conditions necessary for receiving and propagating the specific infections of disease that nearly all the important sanitary measures of modern times have been based. And it is on a further development of knowledge in the same direction, gained by more systematic, continuous, and coincident investigation, that we shall most successfully protect our race from the pestilences that have hitherto "walked in darkness and wasted at noonday."

It was the extensive and ever-extending field of medical science, the complexity of the problems pressing for solution, and still more the individual responsibility of applying the resources at command to the direct treatment of disease, that early disposed medical men to seek each other's counsel, to form groups or clubs for comparison of views and mutual improvement. The manifest advantages of these soon prompted more extended social gatherings, until at the present time a large proportion of the more active members of the profession in every civilized country are participating in municipal, district, national, and international medical organizations.

The aggregate benefit derived from all this active intercourse is beyond easy expression in words. In the more frequent and familiar comparison of cases and views on all professional subjects in the local societies, closer habits of observation and a wider range of thought are induced, while narrow prejudices and bigotry give place to generous rivalry and personal friendships. In the larger gatherings, the formal preparation of papers and reports on a great variety of subjects impels their authors to a wider range of study and greater mental discipline, while the collision with other minds in discussion brings all aspects of the subject to view, enlarging the scope of mental vision, starting new trains of thought, and begetting a broader and stronger mental grasp with purer and nobler aims in life.

I think I am justified in saying that no other one influence operative in human society during the present century has done so much to develop and diffuse medical knowledge, to stimulate its practical and successful application, both in sanitary measures for preventing disease and in the direct alleviation of suffering at the bedside, and in unifying and ennobling the profession itself, as has been accomplished by the aggregate medical society organizations of the world. Yet their capacity for conferring other and perhaps still greater benefits, under proper management, will have become manifest in the near future. And that I may accomplish the chief object of this address, I must ask your indulgence while I indicate some of the more important additional benefits in advancing medical science and saving human life through the instrumentality of our medical society organizations, and the methods by which they may be accomplished.

Every experienced and intelligent practitioner of the healing art is familiar with the fact that all acute general diseases are influenced in their prevalence and severity by seasons of the year, topographical and other conditions of the earth, meteorological conditions of the atmosphere, and the social condition and habits of the people themselves. The most familiar endemics vary annually in the same localities, while the great epidemics that have for ages broken over the comparatively limited boundaries of their habitats only at intervals of years, and extended their ravages from country to country and receded again to the source from which they apparently originated, differ widely in the different periods of their prevalence. But in studying the essential causes of any one of these general diseases and the laws and conditions under which such causes operate, he soon finds certain factors essential for the solution of his problems wanting.

For instance, if he wishes to identify the date of the first attack of epidemic cholera in a given locality, and the character of bowel affections immediately preceding, the ordinary statistics of mortality will give him only the date of death, which may have been from one to seven days later, or it may have been preceded by one or more cases that ended in recovery. If he is anxious to determine the reason why the disease, on entering one community, develops with such rapidity that in a few days its victims are found in every grade of the population and in almost every street, while in another it develops slowly, adhering persistently to particular classes or localities, he may find in the ordinary meteorological records the thermometric, barometric, and hygrometric conditions of the atmosphere, with the direction and the velocity of the winds, but he finds nothing regarding those important though variable elements known as ozone and hydrogen peroxide, active oxidizers; or those nitrogenous products called free and albuminoid ammonia. Neither do the sanitary records give the desired information concerning the composition and impregnations of the soil, or of the organic and inorganic emanations that may arise therefrom.

An adequate knowledge of these absent factors relating to the condition of the earth, air, and water over districts large enough to embrace localities subject to invasions of the epidemics and others known to be exempt through a sufficient length of time to cover several periods of prevalence and periods of absence alike, is essential for enabling us to comprehend the causes that make one district amenable to the prevalence of a disease and another not, as well as the marked differences in the severity and mode of progress of the same disease at different periods in the same localities and same classes of the people. The same additional knowledge would also furnish the basis for further sanitary measures of the greatest practical value.

And yet it must be obvious that the co-operation of numbers of medical men directly engaged in the field of general practice with others possessed of more practical facilities for chemical and microscopical research is necessary for successfully prosecuting such coincident and continuous investigations as would be likely to secure the desired results. Only well-trained general practitioners in every locality chosen for observation could observe and record the date of the initial symptoms of acute general diseases coming under their notice, and at stated intervals collate and report them to a central committee. The daily observations concerning the presence and relative proportion of active oxidizers and of nitrogenous organic elements in the atmosphere and the water would require the selection of one or two experts in chemical and microscopical research for each locality, all making their observations coincidently in time and by uniform methods.

There are included in the organized medical associations of each country the men and materials necessary for prosecuting every well-defined line of inquiry; and these associations, by their stated meetings and their facilities for inter-communication and concert of action, present the entire machinery needed, and are only waiting for well-planned and systematic use.

The tendency to make the permanent medical organizations available for prosecuting work in the directions I have indicated has already been manifested to a limited extent, as may be seen in the formation of the Collective Investigation Committee of the British Medical Association and of the International Collective Investigation Committee, organized during the sitting of the Eighth International Congress at Copenhagen.

An earlier movement more fully of the character I have been endeavoring to explain was made by the American Medical Association in 1875, when a standing committee was appointed to establish in a sufficient number of localities regular coincident daily observations and records concerning all appreciable meteorological conditions, including organic and inorganic elements found in the atmosphere, and the date of beginning of acute general diseases, and report the results at each annual meeting of the Association. The Committee made reports embodying facts of interest and permanent value in 1877, in 1879, in 1881, in 1882, and in 1883.* The latter report contains among other items a complete tabulated statement of the free and albuminoid ammonia in the atmosphere for every day in the year ending August 31, 1883, as determined for the committee by Professor J. H. Long in connection with the laboratory of the Chicago Medical College. The Committee is still prosecuting its work with material in hand for a still more important report at an early day. The greatest difficulty encountered has been to enlist a sufficient number of active practitioners in each locality who would faithfully record the desired clinical facts and report the results to the Committee. But this and all other obstacles can be overcome by persevering and well-directed work.

I trust no apology is needed for having embraced this occasion to attract your attention to the very important question how to make all our medical associations more useful in promoting the science of medicine by more complete methods of investigation, especially in directions where the coincident action of several persons in different places is essential for success.

I fully appreciate the great benefit resulting from the simple mingling of large numbers of medical men in social contact, where each is made to hear constantly, whether on the street, in the hotel, or in the assembly-room, new suggestions, new modes of expression, and to observe the physical and mental effects of the various habits and customs of the different peoples, until each one leaves the general gathering with largely increased mental activity and resources, as was so happily expressed by Sir James Paget in his address to the Congress of 1881, in London. And I appreciate in a still higher degree the benefits derived from the preparation and reading of papers by individuals and the discussion of important questions in all our assemblies.

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* "Trans. of the Am. Med. Assoc.," xxvi, p. 125; xxviii, p. 153; xxx, pp. 38, 147; xxxii, p. 481; xxxiii, p. 43; "Jour. of the Am. Med. Assoc.," ii, pp. 85, 169.

But, for reasons I have already briefly stated, I hope to see added in every permanent general medical society two standing committees; to one should be referred for critical examination every communication claiming to embody a new discovery in either the science or art of medicine, and the other should be charged with the work of devising such lines of investigation for developing additional knowledge as require the co-operation of different individuals, and perhaps societies, and of superintending their efficient execution until crowned with success.

If ten or twenty per cent. of the money paid for initiation and membership dues by the members of each society were appropriated and judiciously expended in the prosecution of such systematic and continuous investigations from year to year, it would accomplish more in advancing medical science directly, and indirectly in benefiting the human race, than ten times that amount would accomplish if expended in any other direction.

For it must be remembered that when money is expended for material objects, even for food, clothing, or medicine, such materials feed, clothe, or relieve but one set of needy individuals and are themselves consumed; but the expenditure of money and time in such a way as to develop a new fact capable of practical application either in preventing, alleviating, or curing disease, that *fact* does not, like the food or medicine, perish with the using, but it becomes literally imperishable. Neither are its benefits limited to one set of individuals, but it is transmitted with the speed of the lightning over the land and under the sea to every civilized people; and whatever benefits it is capable of conferring are as capable of being applied to a million as to one, and of being repeated with increasing efficiency from generation to generation.

It has been tersely and correctly stated that associated action constitutes the characteristic and predominating power of the age in which we live. It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history. It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe. Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you, that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men in rendering available these grand material achievements of the age for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration.

This is the ninth grand International Congress in regular series within little more than two decades, and let us hope that all its work will not only be done in harmony and good order, but with such results as will add much to the aggregate of human happiness through all the coming generations.

Without trespassing further on your patience, I must ask your forbearance with my own imperfect qualifications, and your generous assistance in the discharge of the responsible duties you have devolved upon me.

SCIENTIFIC MEDICINE AND BACTERIOLOGY

IN THEIR RELATIONS TO

THE EXPERIMENTAL METHOD.

An Address delivered before the Ninth International Medical Congress at Washington, September 7, 1887.

By MARIANO SEMMOLA, M. D.,
DIRECTOR OF THE THERAPEUTICAL CLINIC OF THE UNIVERSITY OF NAPLES;
DELEGATE OF THE ITALIAN GOVERNMENT TO THE CONGRESS.

> "Nec ab antiquis sum nec a novis; utrosque ubi veritatem colunt sequor."—Baglivi.
>
> "En science, de même qu'en politique, il faut se défendre également et des préjugés conservateurs et des préjugés novateurs. Nos contemporains prennent souvent la nouveauté d'une idée pour un gâge de sa vérité. La règle de nos pensées ne doit être ni le vieux ni le neuf, mais le vrai."—Bernard.

Gentlemen: Invited by the Executive Committee to the high honor of giving before you an address on the subject of general medicine, I feel it, on the one hand, my duty to express to you my thanks for this high distinction, far above my modest merits, and, on the other hand, I feel the need of appealing to your indulgence, which I hope will come to my aid in this difficult arena that I have entered, animated by the desire to bring you the greetings which the Italian Government has confided to me to convey as a tribute to this medical festival, with faith in me that I may worthily respond to the call.

In the name of Italian medicine I greet you, most illustrious colleagues of the United States, and representatives of medical progress in the New World. I feel it my duty to thank you before all else for the exquisite courtesy with which I have been received in this land, which includes all the greatness of all future free nations. A humble son of Italy, but a passionate admirer of the grand titles of nobility that this alma mater has acquired by right in the history of thought and wisdom, it has ever been the dream of my life to see her honored as she deserves; therefore, invited by your benevolence, I have thought that the best way for me, of all the sons who so revere their country (as you do yours), to merit it, and to fulfill toward my Italy the duty of a son, was to talk to you of the value of one of her most glorious discoveries in relation to the progress of modern medicine, I mean the experimental method, which was born in Italy with Galileo, and which has always been the only guiding compass of scientific progress, without which the most daring and expert pilot would most surely be shipwrecked.

On the flag of medicine—as old, or about as old, as human suffering—there has always been written this device: "*Preserve health and cure all ills.*" This flag was, and will always be, that which must guide us to the effective end of every study, and which must be for the physician, even the one most passionately fond of his science, a true amulet against those temptations that medical studies can inspire in him in the way of mere scientific curiosity. It is self-evident that if there had never been any sick there would never have been any doctors, and it is for this reason that the Platonic philosophy in the progress of medicine seems ridiculous to society, and the old saying, "*Medice cura te ipsum*," very well expresses the irony and sarcasm which the world flings at the physician who is impotent to overcome his own ills. I can easily conceive of a physicist or a chemist who is not a mechanic or a merchant, or of a botanist who is not an agriculturist, and so on, but I can not conceive that there can be a physician who does not occupy himself with observing and taking care of the sick, because it is his study, and it is unquestionably at the same time the only means and only intent of his real mission.

Thus, for me, as in the case of great physicians, the measure of real progress in medicine must not, and should not, be estimated in any other way than the greater or lesser number of patients which the physician can conscientiously say he has seized out of the jaws of death. This estimate may appear to some to be too prosaic, but, unfortunately, it is the stern reality, and it is this reality that renders the evolution of medicine one of the most important social functions connected with civilization, for, wherever man is associated with man in a mutual cause, medicine corresponds to a collective and social interest. "*Mens sana in corpore sano*," says the poet, is the apogee of human happiness.

No matter in what position in life a man may be, his greatest object should be to preserve health and life, because illness and death represent disorder, affliction, and the desolation of his domestic home. The solidarity that unites the members of a family among themselves extends to society in general, and sometimes the death of a single man may be such a public calamity as to compromise and change the destiny of a nation, and this is the very reason why there is nowhere in the whole range of human investigation a more ardent desire to solve the problems encountered than in medicine. Still, it is very natural that the hope of arriving at the whole truth, constantly misled and constantly being born again, has upheld through so many hundreds of years, upholds, and will uphold for ever, all the generations in their passionate ardor of study to discover the mysteries of the phenomena of life in health and in disease.

Beginning with the great Greek epoch, that of Phidias and of Plato, of which the immortal Hippocratic pages constituted the first scientific expressions, up to Koch and Pasteur—that is to say, beginning with the time when man, allowing himself to be guided solely by sentiment, thought that he was in possession of absolute knowledge, up to the modern epoch, in which reason and experience would completely suffocate these aspirations—medicine, except during the long silence of the middle ages, has developed by observation alone, and made precious acquisitions, although often agitated in the most opposite directions, but still living every day upon the discoveries of the day before, and never disowning its past, in which even its bitterest adversaries have ever found an indispensable support, and an inseparable counselor for the new directions of the work.

Thus, more than two thousand years have gone by during which period, first by the force of instinct purified even to sentiment, and afterward with the abuse of reason prostituted more or less by the scholastic, the intimate study remained a dead letter for the progress of medicine, except here and there, where all those rare geniuses who have built up the true medical tradition have in all times found themselves forced to conduct medicine back again to the knowledge of human nature acquired by observation and experience. But these true naturalistic geniuses were wanting in a solid base, and could find their indispensable foundation only at the beginning of the seventeenth century, which epoch made such admirable conquests in the dominion of science. And it was then only that the incessant progress of the sciences of physics and chemistry allowed, if it did not really compel, biology to take its place among the experimental sciences, thus promising to save medicine from subsequent shipwreck. So, after having traversed so many centuries of superstition and errors, medicine at last saw rise in the heavens the true cynosure which was to direct the steps of its most daring ministers. This star, gentlemen, was experiment—that is to say, the study of the objective reality of natural phenomena—and lastly the evolution of the human mind, which had to teach man that the truth of the external world was not to be found formulated either by sentiment or by reason; or, in other words, according to the happy expression of Berthelot, that the world was not made by guessing at it, but by observing. And, in fact, man with this guide has done wonders in all branches of human knowledge, and arrived at an infinite superiority over his most perfect forefathers of the best Greek and Alexandrian epochs; and the story of experimental science is a sublime and infinite poem, of which the substance is always humanity at war with nature to subjugate and conquer. It is easy to imagine with what an impulse physicians with this prospect in view will go on with the noble hope of conquering the most terrible enemies of mankind—that is, his ills. But the revelation of truth, which is the natural fruit of science, has need, like fruits of the cultivation of the soil, of the sowing of the seed, of the development of the plant, of the flowers to assure the harvest; but woe to the farmer who sows in sand even good seed, trusting that its goodness is enough to insure him a harvest—he would destroy it for ever. And the physician who should imitate him, even under cover of the experimental method, would not be less to be pitied than his predecessors, who, armed with the finest logic, always arrived at error. I understand that the incessant curiosity of the scientist, and, above all, of the physician, is impatient, and that curiosity, as the saying has been during many centuries, is the mother of science, for nature in truth only reveals her mysteries to the inquisitive. I understand that the love of novelty is a most natural thing in turbulent times, and that great commotions in any order of ideas awaken the impatient activity of revolutionary spirits. I also understand that when evolution languishes it is by revolution that progress takes place, and that at such times it is even allowable to tolerate the excesses of these profound commotions even if they take place in social or scientific order. But the moment will always come in which the inquisitive spirit will stop to remember that nature does not proceed by jumps, and that, therefore, it is the duty of the true scientist, although recognizing that revolutions are an historical necessity of humanity, to keep them within the limits which the law of evolution confirms.

This harmony between evolution and revolution in the march of a science is commensurate with the benefits that its development brings to society; and this may be said of the physical as well as of the moral, because the effective balance of the ills and advantages of life represents unquestionably the only true measure of the progress of humanity. When this balance shows gaps and delusions, and, above all, when the road that has been taken to gain it is undoubtedly proclaimed the only and indisputable one, we must come to the conclusion that there are some broken teeth in the wheel, and that therefore the interlocking is deranged. The result then is far worse than if the wrong road had been taken in the beginning. I beg you, gentlemen, to follow me.

Medicine presumes to-day more than ever to regenerate itself, and it is its right, if not its duty, as was the case with the other sciences that preceded it in this noble aspiration. Medicine has arrived at that period of evolution in which to-day it invades every other science. It feels the need to penetrate into the inmost of nature's phenomena, which for it are only the facts of a healthy or diseased life. Medicine would, with the experimental method as its guide, aspire to achieve a mathematical precision and impose itself more and more on all the other sciences, and thus it is to be hoped that at last it will have its definite code, which should be the breviary of its ministers for curing diseases. What a new and glorious age of light will this be for humanity! Perhaps we may then be able to say that the final aim of our studies is not only the "*ars medendi*," but the "*ars semper sanandi*."

This point does not call for the least discussion. Therapeutics has always been the aim of the greatest physicians. Even clinical medicine, without therapeutics, would be the meditation of death. If, dazzled by the wonderful progress made by science, it had been forced to forget this fundamental truth, it would feel the ground falling under its feet, and would walk in the darkness of emptiness.

This is what history teaches. At present, when we think that in all this chaos of errors tradition has transmitted to us curative treasures that even skeptics are obliged to respect, and which still form the greatest, the clearest, and perhaps the only demonstrations of therapeutics—mercury, quinine, iodine, etc. On the other hand, all the splendid scientific successes have not been able as yet to furnish anything that can truly rival these poor little foundlings of empiricism. In a very serious disease a doubt must always arise in the mind of a really learned honest physician, but, rather than yield to the illusion of new remedies that are proclaimed to-day on the altars, only to be buried in the dust to-morrow, he would shut himself up and meditate on the phantasmagory of the present day, which certainly can not constitute the real balance of scientific progress.

Not otherwise, gentlemen, would the most daring and confident traveler do, who, tired and footsore from his journey, unable to near his haven, and often discovering new horizons, which make him see it farther away, feels the need of rest for a little, so as to regain his strength, and make sure that he has not lost the right road. Please be so kind as to follow me, gentlemen.

The experimental method has for its aim to search for the determining or proximate causes of the phenomena of nature. The principle on which this rests is the certainty that determining causes exist; its way of proceeding in the search is the philosophic doubt, its criterion and judge is experience. In other words, the scientist firmly believes in the existence of the determining causes that he is searching for, but always doubts having discovered them until experience peremptorily demonstrates that he is in the right.

The experimental method is in fact nothing else than the expression of the natural march of the human mind in the investigation of scientific truth, of reason and experience surrounded with the aid of well-balanced judgment. It does not admit dogmatic personal authority, and in the most absolute way it thrusts from it hypothetical systems and doctrines, nor does it do this out of pride or for bravado; on the contrary, the true scientist is always humble, denying individual authority, doubtful even of himself, and submitting his opinions to the authority of experience and the laws of nature. Goethe said that the only mediator that could exist between the scientist and the phenomena by which he was surrounded must be experience. The rigorous observation of truth is the first study; next comes the co-ordination of the truth, which is an entirely different thing from the fact itself, and is the formulated law which is the exponent of the fact. Lastly, the need is felt of searching for the *causes* of the fact, and here begins the most arduous work of the experimental method. The search for these causes means the ascertaining of the conditions under the influence of which the fact or phenomenon manifests itself, and it is only when that has been done that the scientist can formulate the laws that regulate the appearance or disappearance of the phenomenon. Without such knowledge, simple causal notions can not logically be fecundated; and why? because the causes of phenomena are not laws, and the laws are not causes, notwithstanding what some absent-minded philosophers have said.

It is evident that this last research is the most complicated and difficult, because after the simple observation of the fact, and in the order in which it is unfolded, there is always a need of an hypothesis that prepares for the discovery of the truth; this hypothesis, as was said by Newton, is a kind of daybreak that just begins to disclose the truth in a vague way, which must therefore be illuminated little by little by experience until it shines with brilliancy. Then only can the hypothesis be upheld as true, and the honest and eager searcher must be ready to forget his hypothesis for ever, if it is not confirmed by the interrogations which he has made of nature. The honest scientist must always forget himself, never be satisfied by his intuitions, even if they are those of a genius, and proceed in all ways to verify hypothesis by experience before proclaiming it as a truth. The experimental method, therefore, is composed of three elements—observation, supposition, and verification. These three elements are distinct, but inseparable. The hypothesis occurs in the observation and in the verification. The observation occurs also in the hypothesis, of which it is the starting-point; and in the verification, of which it is the final substance. Finally, the verification is inseparable from the observation, which is its instrument, and from the hypothesis which it is to destroy or confirm. The experimenter who, after having made a new and splendid observation, and conceived a daring hypothesis to explain it, instead of wholly giving himself up to completing the experiment so as to establish an everlasting truth, prefers to exalt himself for his hypothesis without trying to verify it, and communicate it to all mankind, affirming it to be the definite truth, torturing nature to justify his enthusiasm, is in reality a traitor to science, and loves himself better than he does the discovery of truth, because, trusting to the credulity and servility of the ignorant masses, he sacrifices *real* progress to the vain paternity of a new system. In fact, he allows himself to be carried away by a weak though dominating spirit; perhaps, though a learned man, he does not deserve the name of a scientist, because he does not possess the sentiment which Pascal expressed paradoxically when he said: "*We never search for* things, but we investigate things." The experimenter who loves true progress does not suppress anything in his researches, nor is he disturbed by results contrary to his expectations; the immortal Bernard used to repeat, "Redouble your ardor to arrive at the temple of truth," because he well knew that to shut one's eyes to unfavorable results was not equivalent to suppressing them. He who does this simply deludes himself, like the ostrich, which, when it has hidden its head in the sand, thinks it has escaped the danger.

This, therefore, is the road upon which medicine must travel if it wishes to regenerate itself. We can imagine a science in its infancy, but we can not admit the construction of a science that denies at every step the only code of its origin. The problem of scientific medicine appears most simple, to determine the conditions of the existence of the vital phenomena in their healthy or morbid state. The first step was in physiology, and I certainly need not remind you of how much the experimental method in physiology has taught physicians, or that it is exactly the fact of their having applied it so well in the discovery of many secret mechanical functions that has made it light up clinical medicine like a bright sun. To arrive at this degree of certainty it needed more than half a century of study, without taking into consideration the precious foundations which biology had prepared since the beginning of the last century; and the "*errata corrigenda*" which had to be made at so many points of the science, after long periods in which it was thought that certain definite truths were already on the throne; without counting, finally, that, while the patient and honest physiologist was hunting with an undaunted ardor that the search of truth alone can cause, the object of his quest never escaped him, and the failure of to-day was softened by the certainty that on each to-morrow he would be able again to interrogate nature, because humanity continued to live quietly on without occupying itself as to how the stomach digested, or what were the functions of the liver, etc. And it is thus that unconsciously it presented to the scientist each day, each hour, each minute the same problems, without ever dreaming that around it there were so many honest spies that were presuming to lift each day another corner of the mysteries of its enjoyment, because good health is enjoyment. Still, after so long a time, and with such favorable conditions of study, who would dare to assert to-day that what we know in human physiology is more or less than that which remains for us to learn? It is enough to remember that of the biological chemistry of the blood we know little or nothing, and that hæmatological notions which were the most accredited are threatened by a revolution since the late researches of an illustrious scientist, Angelo Mosso, an honor to Italy, but who will most likely be obliged to stop and begin over again.

Logically, the physician who proclaimed the experimental method should have been disheartened by the colossal difficulties of this prologue, and of those infinitely greater ones that were easy to foresee when entering upon a field so much more complicated—the field of pathology and therapeutics. But it was not only the difficulty of conquering; it had also to be considered that the imperfect conclusions at which one might arrive were not a matter of indifference to humanity, and that the correction of the error of to-day would always be too late to remedy the unfortunate consequences that had already taken place, because the sick man does not wait; moreover, he can not and *must* not wait.

These difficulties and these reflections, which did not escape some immortal physiologists, among others Bernard, escaped many physicians, and Bernard, after thirty years of hard research, came to the conclusion that scientific medicine was not yet ready to be constituted. The sign of the shop was enough for these physicians, who had no clear idea of the vastness of the problems that they would have to solve in the experimental method. This innocence constituted in itself an unfavorable sign for the result, because in nature all is harmony. The force must be in proportion to the resistance that is to be overcome, and it is only in this way that we must prepare to observe and study nature. Otherwise we must supply the deficiency of force from fancy, and then we return to the perfectly scholastic without knowing it. This mode of procedure is certainly damaging to the effective progress of pathology and of clinical medicine, but becomes downright ruin in therapeutics. A bold hypothesis more or less true or more or less false, which is limited simply to satisfying the physician's curiosity to explain obscure morbid facts plausibly, is an innocent illusion which may change every day according to the taste, without any one having the right to complain; but when this hypothesis is not yet judged true—for, according to the laws of the experimental method, it must conduct straight to the cure of the patient—then it becomes another matter. The physician then commits a crime and can not be excused, not even by pleading the feverish desire to cure his patient, because it is not allowable for an honest man to conceive even praiseworthy ideas when conscience makes him feel that he can not do so without harming another man, and the fact of this impossibility is sure to be felt with the knowledge that this or that rational remedy was not the result of the true experimental method. If we were to proceed in this way in physics and chemistry, all the manufacturers who have opened factories founded on the rigid laws obtained from these sciences would lose their capital, and would necessarily become bankrupts. The poor sick must bear everything. I do not really know why such a cry is raised against the empirical medicine of former times, while the application of the new remedies based on a bad experimental method is nothing more nor less than another kind of empiricism, not less to be deplored than the empiricism of the past. In traditional empiricism medicine cured or killed the patient without knowing *why*—that is to say, despising the exact idea of the remedy—and scientific medicine does the same when, instead of religiously discovering the truth, it abandons itself to be judged by *how;* they both belong to blind medicine most assuredly—one is blind with the appearance of ignorance, and the other is blind under the mask of science. Unfortunately, this is the naked reality of the facts.

But very different are the exigencies of the experimental method when it wants to proceed to the laying of the corner-stone of true scientific therapeutics. What has physiology done and what is it doing? Physics and chemistry study the conditions of the existence of phenomena to formulate laws so as to direct the appearance or disappearance of said phenomena. Pathology and therapeutics must do the same, as a healthy organism is not a passive field of action in which disease and the remedy which is to be applied as a cure come to do battle. The method of search must, therefore, be alike, in the same way that there are not two workmen, one to build a house and one for the house which is falling.

In the mechanical phenomena of the organism nothing can be seen to distinguish them from the phenomena of general mechanics. Likewise in the infinite series of physico-chemical phenomena there is nothing that distinguishes from the physico-chemical phenomena of a living being from those of dead matter, except the law of matter, different from that which regulates the manifestations of the first.

Thus there are not two different sorts of mechanics, nor of physics, nor of chemistry, but there are surely in living beings certain special characteristic conditions of matter, which are regulated without doubt by the laws of physical chemistry, but different from the *ordinary* laws which physics and chemistry have formulated in relation to conditions of matter entirely opposite. Under this relation life is only a modality of the general phenomena of nature—that is to say, while there is a specialty of substance and form, which characterizes the manifestations, and which in its origin is inaccessible to our researches, because life signifies *creation*, in reality it has a communion of laws which confounds it with all the other cosmical phenomena.

Scientific and experimental medicine proposes to discover the conditions of the phenomena proper to life, or perhaps to decide their determining causes, and these are, or rather should be, its pillars of Hercules. It, like all the rest of the sciences, does not delude itself by hunting for the Why, well knowing that the first legislative and directive causes of creation are inaccessible; and that it is enough for each scientist to know under what physico-chemical conditions such or such a phenomenon manifests itself, that he may be able to control and modify its occurrence.

What are the phenomena that the physician studies? The functional disturbances, or the symptoms of the disease. What are the physico-chemical conditions of these phenomena? The internal causes of the diseases. This is the simple formula of the pathological problem: to arrive logically at the third part of the solution, which is the most serious. How is it possible to artificially modify these diseased physico-chemical conditions so as to restore them to their normal physico-chemical condition—that is to say, to make the morbid phenomena disappear and the normal functions return?

It is enough, gentlemen, to announce this series of problems to frighten and amaze, not *one*, but many and many generations of explorers. This honest confession would appear to me to be the best preface of future scientific medicine. There is no remedy. If scientific medicine is to be constituted, this is the logical progression of its steps. Outside of this orbit all is empiricism and ignorance, because there do not exist half-sciences or conjectural sciences. Following this road, the physician (like the physico-chemist, who first properly knew the conditions of the existence of natural phenomena, and then modified them so as to turn them to his profit)—the physician, I say, will learn how stupid is the phrase which to-day is so often repeated, and in the use of which he often abuses the name of a misunderstood progress—that *man commands nature.* No, gentlemen, in reality the scientist, as also the physician, if he wishes to be and not appear such, instead of commanding, obeys, and *must* obey nature, a truth as old as Hippocrates: because, if he wishes to profit by them, he must completely study the laws that preside over phenomena, and, while interrogating nature, must jealously respect these laws. Otherwise, nature without exception will rebel, and the result which he desires will certainly not take place.

Ask the modern prodigies of industry, who are the legitimate sons of scientific progress; interrogate Franklin, Stephenson, Daguerre, Edison, and many other benefactors of humanity, if it is true that they have bridled the thunderbolt. They have allowed man to nearly suppress distances; they have given to us the honor of having for our painter the light-house of the world, and placed most fearful lightning in our parks and houses as a rival to the sun. But they were always true and faithful ministers of science; they were quiet, and never made pompous promises until they had discovered all the secrets of the phenomena which they had undertaken to study. If but one link of the long chain of their researches had not been properly forged and welded, none of us can doubt that the chain would most certainly have been broken at the trial, and that the miracles prematurely announced would have been lost for ever. This, then, is what unquestionably distinguishes real scientific or experimental progress. In the biological sciences, and above all in the progress of pathology and of therapeutics, this fundamental principle has too often been forgotten, and this forgetfulness appears to me the real cause which has paralyzed up to the present the useful results in proportion to the immense mass of researches made in the field of medical sciences. It is repeated on all sides that there have been discovered thousands and thousands of facts. You continually hear of these facts, and of a thousand new experiences to excuse the forgetfulness of the experimental method. But, as De Candolle, Chevreul, Bernard, and many others kept continually saying, in real science it is digested facts, and not crude ones, which nourish thought, and that nutrition may be perfect, it is indispensable that a just proportion between the quantity of nourishment and the power of the digestive organs be established (see "Histoire des sciences et des savants depuis deux siècles"). This boast, which many modern scientists make, of not wishing to discover any but new facts, really is nothing more than a reaction of the natural philosophy that ruled about the beginning of this century, especially in Germany, and which gave to the mind an exaggerated preponderance in the interpretation of the phenomena of the external world. But if the excesses of reasoning in the progress of experimental science opened the doors to the present apparition of scientists and of experimenters purely empirical and skeptical, the contrary excess, that is the complete absence of all reasoning on the facts, which are observed, leads to the complete loss of the great benefits of the experimental method. In the experimental sciences isolated facts are a luxury, vain and perilous, when they are not discovered under a common directing principle, or at least from time to time co-ordinated, put in connection, and lighted by a connected logic, that is afterward proved true by later experiences. And thus, also, in medicine, riches isolated and divided can not by themselves produce useful progress to clinical medicine, because the physician at the bedside, after a minute analysis, has need of a great synthesis to formulate wise advice, and without synthesis even an encyclopedic physician is ruin for the patient. I beg you, illustrious colleagues, to fix your kind attention on these ideas, as it appears to me that the future will not be different if the true lovers of progress do not counsel the rising generation to proceed with the same rigor, so that the experimental method may conduct to prodigious results of the physico-chemical sciences, and of physiology, because there can not exist two different experimental methods; the experimental method is one, and is that which was born with Galileo, and its code is always the same. Undoubtedly, with few exceptions, the feverish desire to *do fast* has interfered with doing well, and on this account it is that, while for over half a century the absolute reign of the experimental method in medicine has been proclaimed as a principle (or dogma) of progress, in reality we are spectators and actors of real barbaric onslaughts, which are the systematic invasions that are the negation of the experimental method. It matters little if a system be constructed in the name of an hypothesis, and another in the name of a new and true fact, and it matters little whether these systems are called vitalism or controstimulism instead of cellular pathology or bacteriology. These differences in names only imply that, instead of having a strong passion for the fantastic hypothesis of the old school of medicine, we first stop on the discovery of a new fact, and then think we see beyond the fact, constructing instead hypotheses; but this is exactly what constitutes the system, *an edge of truth which it is sought to proclaim and impose as the total and absolute truth with the effect of dethroning the rest.*

This progress is anti-scientific, and at a given moment must from necessity come to a stop. To-day, unfortunately, medicine continues to be the victim of systems, and the system of the day is bacteriology. For those who sincerely love the progress of medicine it appears to me that hiding from us this dangerous reality is little scientific charity. It would undoubtedly be childish, if not dishonest, to ridicule the great teachings which are included in the discovery of a real microcosm incessantly at war with mankind. It is true that it is written in the pages of the chosen masters (Brieger, Hayem, Klebs, Sternberg, *et al.*) that the limit which we must dream of for the present in this new era of pathology and therapeutics is clearly given; but the current of mediocrity suffocates all, conquers the masses, carries with it the less reserved, and fills with enthusiasm those who have no scientific faith and who are ready to cry Hosanna to-day to Christ, and to-morrow to Mahomet. The only fact that has allowed of this systematic invasion, a hundred times more powerful and incomparable in its dominion than that of cellular pathology, is the complete forgetfulness of the laws of the experimental method in the progress of medicine.

Without pretending to search for the prophets of bacteriology in Lucretius's poem, "De natura rerum," and in the *contagium animatum* of the middle ages, I prefer to tell you that the idea that living microscopic germs, penetrating insidiously into us by our lungs, stomach, and skin, are capable of developing certain determined diseases, is not new, and has in other periods presented itself to the minds of physicians under another name, and it would be enough to mention the universal panacea of camphor that checkmated less than half a century ago the greater part of the medical faculty. But these attempts did not contribute to start microbiology, of which the first light is undoubtedly due to Cagnard Latour, who had formally announced that if yeast made from beer caused sugar to ferment, it was on account of *some effect of its generation and of its life.* No one could then have believed (in 1825) that in these words were included the germ of one of the most fruitful naturalistic discoveries of the nineteenth century. Nor do I pretend here to trace to you by what rigorous and scientific ways this great discovery has made its way, and what obstacles it has had to overcome. But I must recall the memorable researches of Rayer and Davaine in 1851 on the bacteria of carbuncle, and those of Pasteur on the transformation of lactic acid into butyric acid (1861), and on the diseases of silk-worms; these were the starting-points of the present scientific researches, so much the more remarkable inasmuch as they show that when science has followed the bed of experience without overflowing, it has always come to indestructible and lasting results. Things continued to go on in the right way for many years, and everything seemed as if it would proceed with the greatest experimental rigor.

Sufficient would be the works of Raulin, who was the first to present to us the vast horizons that were opening before the scientific physician regarding the physico-chemical conditions necessary for the development of bacilli, studying in a given space the conditions favorable and necessary for the development of the mold commonly known under the name of *Aspergillus niger;* he demonstrated that the smallest trace of nitrate of silver in a liquid specially prepared was enough to stop the development of this mold. This should have infused into the physician great reserve and great prudence, but for more than ten years microbiology, instead of proceeding by measured and sure steps, assumed to have become all pathology. It was a real whirlwind that enveloped everything in it; and alongside of precious discoveries, such, for example, as that of the bacilli of carbuncle and of tuberculous and some other diseases, which were really an honor to science, sprang up on all sides microscopic researches on the existence of new microbes in all diseases, and it appeared as if each disease had found its real cause. For the malarial infection alone, after the *palmella* of Salisbury, six or seven microbes were discovered, up to the new *Plasmodium malariæ*, destined perhaps to die before it is registered, because authoritative researches (Tommasi Crudeli) have demonstrated that its presence in the corpuscles of the blood was illusory, the alteration of which is due instead to a retrograde metamorphosis of the red corpuscles (Mosso). For the last five or six years it has been impossible to open a newspaper without finding registered the discovery of one or more new pathogenetic microbes, and it must be said that, while attention was turned away from so many unsolved problems of pathology, the easiest way to enter upon the road to celebrity was, and is still, to announce the discovery of some new micrococcus or bacillus in such or such a disease. It has been a general blindness; pathology has almost been proclaimed by some to be a mere corollary of bacteriology. Every fashionable clinic in vogue found it indispensable to have next to the sick-ward a cabinet for microbe cultivation, and so far no harm has been done, for such researches may prepare for the future, but should always remain in their places. But what may appear to some of this auditory incredible is that, as some of the clinics were not rich enough to maintain the laboratories of bacteriology, they opened a laboratory for the cultivation of bacteria and closed a sick-ward, and it happened that in some of the great charity hospitals, during the same day and same hour, the director, on the one hand, begged the medical corps to moderate the prescribing of meat for the sick, threatening otherwise to diminish the number of patients, and, on the other hand, proposed spending a new sum for meat necessary for the cultivation of bacteria in a special institute. If these accounts were not capable of proof, they might be believed to be tales of the middle ages, and, in fact, in some of the present dissertations on this subject, we find romantic descriptions of the lives of the microbes, of the battles and slaughter in the phalanxes of the different microbes which exist in our organism, enough to make us believe that we have returned with scientific form—that is, with a new *mise en scène*—to the battles of the acids, of vital spirits, and of the archeri which rendered Sylvius and Van Helmont celebrated. The innocent public, only desirous of knowing that a sure remedy would be found for every disease, and that even epidemics would be checked, and above all that of cholera (as the great clamor which surrounded the discovery of the comma bacillus was the furnace of this hope), enthusiastically applauded this discovery, which was proclaimed on all sides the true philosopher's stone of pathology, and the physicians, on the other hand, not willing to lose these praises, although so premature, hastened with unheard-of zeal to proclaim that the only intent in the cure of disease must be that of killing the microbes, or at least of making a sharp war against them, so that they might not devour the organism, while this latter unfortunately most of the time succumbed to the action of the antiparasitics. It is impossible to say, and, moreover, it would be a superfluous work to state it here, with what criminal audacity and with what ridiculous childishness, at the same time, the brains of those physicians found it easier not to follow the thorny way of the experimental method, but grasped thirstily at every new idea, and magnified and exaggerated it, believing that this was enough to stamp them as progressive men. A learned and honest cultivator of medicine who would like to amuse himself need only observe the most absurd cures which have been proposed for the most serious diseases during the last ten years; and for the honor of progress it must be said that it could not believe its eyes.

And all these curative propositions were made, and are still repeated, in the name of scientific medicine and of rational therapeutics. It is enough to remember the unfortunate attempts at many different clinics with the most poisonous parasites to kill the bacillus of tuberculosis in consumptives, but which contributed instead to aggravate their miserable destiny. Sufficient, also, is it to remember that carbolic acid and salicylic acid were proclaimed as remedies sure to abort typhoid fever and cholera. But, on the other hand, we must not be unjust to the honesty of the progressive men, for a certain remorse made itself felt in these physicians, who kept putting the organism between the door and the wall, playing lightly with terrible poisons. So some concluded to come to a shrewd compromise, using certain dangerous medicines in such doses as to render them harmless, but at the same time ineffective, according to the teachings of the laboratory. Undoubtedly in this way the life of the patient was guaranteed against the dangers of the cure, but undoubtedly none the less was the physician who pretended to be a scientist a charlatan. But the honor of progress at least was saved before the public, which in reality, ignorant of how much carbolic acid was necessary to kill this or that bacillus, and seeing the patient cured, cried out *Eureka*, and blessed in every way this new kind of medicine. Nor did they hesitate to refer to Darwinism applied to therapeutics in some diseases. "Struggle *for life*," gentlemen—this is the formula, the fight for existence; and they thought to kill the bacilli of tuberculosis by introducing into the respiratory organs other bacilli believed to be innocuous, but in reality only making the efforts of the former worse, which fact has since been demonstrated in important trials in laboratories and clinics.

(*To be concluded.*)

Original Communications.

REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.*

By CHARLES STEDMAN BULL, M. D.,
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For convenience of reference, the detailed report of these thirty-six cases is presented in tabular form, and is prefaced by a brief statement of the nature of the case; the complications, if any existed; the technique of the operation and after-treatment, with some remarks upon the process of healing and the resulting vision; together with a consideration of the advantages and disadvantages of the operation.

Sex of the Patients.—Of the thirty-six cases in which Daviel's operation was performed, twenty were in males and sixteen in females.

Age of the Patients.—The youngest patient was thirteen years of age, and the oldest was seventy-nine.

In twenty-four cases the cataract was of the hard, senile character. In eleven cases it was traumatic in origin, and soft or semi-soft in consistence. In one case it was of secondary or inflammatory origin.

Complications.—There were corneal maculæ in three cases. Tremulous iris and fluid vitreous were present in seven cases. There was old chorioiditis in five cases, and irido-chorioiditis in one case.

Antisepsis.—Careful antiseptic precautions were taken in every case before, during, and after the operation. The patient's head and face were carefully washed with a solution of mercuric bichloride (1 to 1,000) before the operation, and the conjunctival *cul-de-sac* was thoroughly cleansed several times on the day of operation with a sublimate solution of 1 to 5,000. This was done carefully just before the operation, and then a 5-per-cent. solution of cocaine hydrochloride was instilled several times until the desired anæsthesia was produced. A final washing of the conjunctiva, cornea, and eyelids was then done with a solution of mercuric bichloride (1 to 5,000). The hands of the operator and assistants were carefully washed with soap and water, and then thoroughly cleansed with a sublimate solution (1 to 1,000). The instruments were sterilized with a carbolic-acid solution, and lay in a bath of absolute alcohol till ready for use.

Operation.—The operation was always done while the patient was lying in bed in the room where he was to remain, so as to avoid all unnecessary movements. A speculum was used in every case to hold the lids open. The knife used was a long, narrow knife, somewhat narrower than the Graefe instrument, and, on being introduced through the cornea on the temporal side, was passed rapidly across the anterior chamber to its point of exit, and the corneal flap, measuring about two fifths of the circumference of the cornea, was rapidly completed. Usually there is no prolapse of the iris on the withdrawal of the knife, but, if it should occur at this stage of the operation, it is allowed to remain until after the extrusion of the lens. The sterilized capsulotome is then introduced, and the anterior capsule opened by a quadrilateral incision. The speculum was then removed, and by pressure and counter-pressure through the lids with the index fingers, or with one finger and a broad spatula, the lens was readily caused to present at, and pass out through, the corneal wound. The *cul-de-sac* and edges of the lids were then carefully irrigated with the bichloride solution (1 to 5,000), and, if the reduction of the prolapsed iris had not occurred spontaneously, it was carefully replaced by delicate manipulation with the spatula. All soft lens matter was then gently washed away with the antiseptic solution, and if any lens substance or blood-clots remained in the anterior chamber, they were removed by gentle irrigation of the chamber with a solution of mercuric bichloride (1 to 10,000). One drop of a solution of eserine sulphate (a grain to the ounce of a saturated solution of boric acid) was then instilled into the anterior chamber, and the lips of the corneal wound were brought into close coaptation. A final washing of the *cul-de-sac* was then done, and in some cases a little eserine was spread along the ciliary margin of the lids. Then a pad of sterilized linen gauze was placed over the lids, and over this a thin wad of absorbent cotton soaked in a solution of bichloride (1 to 2,000); over this a wad of dry absorbent cotton, and then a bandage over both eyes. Unless indicated, this bandage was not removed for two days, but the eserine solution was instilled underneath the bandage twice daily. At the end of forty-eight hours the bandage was removed, and the lids and adjacent portions of the face were carefully washed with the bichloride solution (1 to 2,000), but, unless there were signs of irritation or inflammatory action, the lids were not opened till the fourth day. They were then carefully cleansed and opened, the eyeball and *cul-de-sac* were gently irrigated with the bichloride solution (1 to 5,000), and the eye was then examined. If the appearance of the eye was favorable, the eserine solution was again instilled, and the bandage reapplied to the eye operated on for another day, and then was removed altogether.

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[*] Read before the American Ophthalmological Society, New London, Conn., July 20, 1887.

The *reduction* or *return* of the *prolapsed iris* to the anterior chamber occurred spontaneously in sixteen cases, while in the twenty remaining cases it was replaced by the spatula.

The *healing process* was in most cases favorable, though occasionally somewhat protracted. There was *no* case of suppuration. There was one case of so-called "striped keratitis" extending from the wound over the entire cornea, but this soon subsided under the influence of hot water and a bandage, and the cornea subsequently became entirely clear. There were six cases of plastic iritis of a mild type, which yielded readily to treatment, and two cases of moderate irido-cyclitis with formation of a membrane in the pupil.

In one case the wound healed on the third day, and the healing process progressed favorably till the ninth day, when the epithelium from the lower half of the cornea was cast off. This was, however, regenerated in three days under the reapplied bandage, and there was no further complication in the case. In another case the corneal epithelium on the third day was raised up in four or five spots by a clear exudation, just as in "keratitis bullosa," but the fluid was absorbed and the small blisters subsided, leaving the cornea clear.

In twenty-four cases the healing process was perfectly normal in every respect, though in some rather slow.

Prolapse of the Iris.—This did not occur in any case.

Incarceration of the Iris.—In the first thirty cases there was neither secondary prolapse nor incarceration of the iris in the wound, and this was attributed to the great care exercised in the operation, which was done with the patient lying in bed, from which he was not permitted to be removed until the wound had healed. But in the last six cases, in which the same care was taken, incarceration of the periphery of the iris occurred in every case. There was no prolapse and no incarceration of the sphincter iridis, but the iris became adherent to the inner lips of the wound more or less extensively near its periphery, causing considerable irritation and a somewhat prolonged circumcorneal injection, with distortion and displacement of the pupil. This latter symptom was noticed in some cases where there was no incarceration of the iris tissue, and this displacement, with or without incarceration, occurred in sixteen cases. There were posterior synechiæ or adhesions of the iris to the remains of the lens-capsule in thirteen cases.

The average duration of in-door or hospital treatment was somewhat more than twenty days (20·75), the shortest period being twelve days and the longest forty-seven days.

A secondary operation, usually a needling or laceration of the posterior capsule, was required in twelve cases; and excision of a piece of very thick membrane and capsule combined in one case.

Accidents during the Operation.—Prolapse of the vitreous occurred in four cases. Dislocation of the lens downward occurred in two cases. Collapse of the cornea occurred in two cases.

As regards the after-treatment of these cases, but little need be said. Rest in bed is of the utmost importance until the wound is healed.

Atropine was not instilled in any of the cases except where iritis occurred, and even here a one-grain solution was deemed sufficiently strong. In the two cases of irido-cyclitis a four-grain solution of atropine sulphate was instilled as often as was thought necessary. No eserine was employed after the external lips of the wound had healed. The incarceration of the iris which occurred in six cases may possibly have been due to this fact; but as there was no incarceration in the first thirty cases, in which the eserine had also been discontinued after the healing of the external lips of the wound, it is extremely doubtful whether this explanation will suffice.

The degree of acuteness of vision obtained in these thirty-six cases by the simple method of extraction was as follows:

$V = \frac{20}{30}$ in two cases.
$V = \frac{20}{40}$ in eight cases.
$V = \frac{20}{50}$ in eight cases.
$V = \frac{20}{70}$ in ten cases.
$V = \frac{20}{100}$ in five cases.
$V = \frac{20}{200}$ in two cases.
$V = 0$ in one case; eye previously blind.

Thus it will be seen that $V = \frac{20}{20}$ was not obtained in any case, while a visual acuity of $\frac{20}{200}$ or better was obtained in thirty-five cases, or *all but one.*

The number of cases here tabulated is as yet far too small to admit of the formation of any opinion as to the advantages or disadvantages of this method of operating. It should not be forgotten that it is essentially an old operation to which some surgeons are returning, and not a new one which is still on trial. Wecker and Panas, who have done more than all others to revive it, are most enthusiastic in their praise, but they have not as yet furnished us with any detailed or reliable statistics. Simple extraction without iridectomy certainly preserves the natural appearance of the iris, especially if there is no incarceration of the iris tissue, and a round and movable pupil is more serviceable than a truncated or key-hole pupil. I have no doubt in my own mind that eccentric vision is better in these cases than after extraction with iridectomy, for a number of these patients stated that they had very little difficulty in crossing crowded streets. Central vision, as exemplified in the cases tabulated, can not be regarded as any better than that found in cases of extraction with iridectomy, though I think it may be considered fully as good. One advantage the simple method of extraction certainly possesses, and that is, there is much less probability of incarceration of bits of capsule or portions of vitreous in the corneal wound than in the peripheral linear incision with iridectomy. On the other hand, the technique of the operation is more difficult of performance. The knife must be passed very rapidly across the anterior chamber, in order to prevent the iris from falling on its edge and being divided. The extrusion of the lens through the corneal wound is more difficult in the simple operation because of the presence of the prolapsed iris, which partially fills the wound. For the same reason the danger of prolapse of the vitreous is more imminent, the

TABULAR REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.

No.	Name.	Age.	Nature of cataract.	Complications.	Operation.	Reduction of iris.	Healing process.	Secondary prolapse or incarceration of iris.	Posterior synechiæ.	Duration of treatment in days.	Primary resulting vision.	Secondary operation.	Ultimate vision.
1	Mrs. W.	68	Senile, hard, L. E.	Broad arcus senilis.	Prolapse of vitreous at moment of capsulotomy; lens removed by hook; collapse of cornea; hæmorrhage into ant. chamber.	By spatula	"Striped" keratitis; slow healing of lips of wound.	None.	One.	23	$^{20}/_{200}$	Discission of post. capsule 4 weeks later.	$^{20}/_{50}$
2	F. M.	13	Traumatic from blow 8 mos. ago, R. E.	Tremulous iris, dilated pupil.	Normal, except slight loss of vitreous after extrusion of lens.	Spontaneous.	Normal.	None.	Two.	15	$^{20}/_{50}$	....	$^{20}/_{40}$
3	Mrs. S.	26	Traumatic; blow from cork 3 yrs. ago, R. E.	None.	Normal.	Spontaneous.	Normal.	None.	None.	18	$^{20}/_{100}$	....	$^{20}/_{70}+$
4	W. B.	21	Traumatic; 4 yrs. ago, L. E.	None.	Normal.	Spontaneous.	Normal.	None.	None.	20	$^{10}/_{200}$	Discis'n of thickened capsule 3 wks. later.	$^{20}/_{70}$
5	Mrs. H.	70	Senile, hard, R. E.	Corneal macula.	Normal.	By spatula	Normal.	None.	None.	21	$^{20}/_{200}$	....	$^{20}/_{70}$
6	Mrs. F.	22	Traumatic; R. E.	None.	Normal.	By spatula	Normal.	None.	None.	24	$^{20}/_{100}$	....	$^{20}/_{100}$
7	Mrs. K.	55	Hard, nuclear, R. E.	....	Considerable soft lens matter carefully evacuated by pressure. Irregular coaptation of lips of wound.	Spontaneous.	Slow.	None.	Two.	26	$_{-}^{20}/_{200}$	Discission 4 weeks later.	$^{20}/_{30}$
8	M. L.	60	Senile and traumatic; R. E.	None.	Normal.	By spatula	Slow.	None.	None.	22	$^{15}/_{200}$	Discission 3 weeks later.	$^{20}/_{70}$
9	A. K.	42	Traumatic, R. E.	Incipient cataract in L. E.	Normal.	Spontaneous.	Normal.	None.	None.	16	$^{20}/_{100}$	Discission 2 weeks later.	$^{20}/_{50}+$
10	J. K.	62	Traumatic; R. E.	Ant. polar cataract in L. E.	Normal.	By spatula.	Slow.	None.	None.	22	$^{10}/_{200}$	Discission 4 weeks later.	$^{20/100}+$
11	J. G.	65	Hard.	Aphakia in L. E., with old chorioiditis.	Prolapse of vitreous at once; lens dislocated downward and inward, and removed in its capsule by blunt hook.	By spatula.	Slow; iritis.	None.	Several.	28	$^{8}/_{200}$	Lacerat'n of dense membr'ne 6 weeks later.	$^{20}/_{70}+$
12	D. G.	38	Traumatic; nuclear L. E.	None.	Normal.	Spontaneous.	Slow; iritis.	None.	Several.	26	$^{20}/_{200}$	....	$^{20}/_{50}-$
13	P. S.	70	Hard, R. E.	Broad arcus senilis.	Prolapse of vitreous; retraction of iris; lens dislocated downward and removed in capsule with spoon; loss of considerable vitreous.	By spatula.	Very slow; opacities and membrane in vitreous.	None.	One.	38	$^{10}/_{200}$	Discission 5 weeks later.	$^{20}/_{100}$
14	Mrs. L.	78	Hard, R. E.	None.	Normal.	By spatula	Normal.	None.	Two.	23	$^{20}/_{70}$	....	$^{20}/_{40}$
15	Mrs. C.	40	Traumatic, R. E.	Incip. cataract in L. E.	Normal.	Spontaneous.	Normal.	None.	One.	15	$^{20}/_{70}$	Discis'n 4 wks. later.	$^{20}/_{40}+$
16	J. M.	47	Traumatic, R. E.	None.	Normal; much soft lens matter; free irrigation of ant. chamber.	By spatula	Irido-cyclitis; dense membrane in pupil.	None.	Several.	47	$^{3}/_{200}$	Rem'v'l of triangular piece of membr'ne 3 w. later.	$^{20}/_{200}+$
17	Mrs. S.	68	Hard, L. E.	None.	Normal.	By spatula	Normal.	None.	None.	16	$^{20}/_{70}$	....	$^{20}/_{40}+$
18	Mrs. G.	79	Hard, L. E.	None.	Normal.	By spatula	Slow.	None.	None.	24	$^{20}/_{100}$	....	$^{20}/_{50}$
19	M. C.	45	Hard, R. E.	None.	Normal.	By spatula	Normal.	None.	None.	22	$^{20}/_{200}$	....	$^{20}/_{50}$
20	F. H.	64	Hard, L. E.	R. E. phthisis bulbi following extraction of cataract 5 mos. before.	Normal.	By spatula	Wound heal'd on 3d day; on 9th day loss of epitheli'm from low'r half of cornea; this was regenerated in 3 d. under bandage	None.	One.	19	$^{20}/_{70}+$	....	$^{20}/_{50}+$
21	Mrs. W.	66	Hard, R. E.	None.	Normal.	By spatula	Slow.	None.	Two.	19	$^{20}/_{100}$	....	$^{20}/_{70}+$
22	Mrs. G. M.	70	Hard, R. E.	None.	Normal.	By spatula	Slow.	None.	None.	22	$^{20}/_{100}$	Discis'n 3 wks. later.	$^{20}/_{70}+$
23	H. K.	65	Hard, R. E.	Old chorioiditis.	Normal.	By spatula	Corneal epithelium raised by clear fluid in spots, like those in "keratitis bullosa."	None.	Two.	14	$^{20}/_{200}$	....	$^{20}/_{200}+$
24	G. B.	46	Hard, L. E.	Macula corneæ.	Normal.	Spontaneous.	Normal.	None.	None.	16	$^{20}/_{100}$	....	$^{20}/_{70}$

TABULAR REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT—(*Continued*).

No.	Name.	Age.	Nature of cataract.	Complications.	Operation.	Reduction of iris.	Healing process.	Secondary prolapse or incarceration of iris.	Posterior synechiæ.	Duration of treatment in days.	Primary resulting vision.	Secondary operation.	Ultimate vision.
25	F. K.	17	Traumatic, R. E.	None.	Normal; post. capsule torn by capsulotome.	Spontaneous.	Normal.	None.	Two.	12	$^{20}/_{50}+$	....	$^{20}/_{30}-$
26	P. B.	60	Hard, L. E.	None.	Normal.	By spatula	Slow.	None.	None.	20	$^{20}/_{100}+$	....	$^{20}/_{50}+$
27	Mrs. K. H.	54	Hard, L. E.	Old chorioiditis.	Normal.	By spatula	Slow; iritis.	None.	One.	16	$^{20}/_{200}$	....	$^{20}/_{100}+$
28	Marg. D.	55	Hard, R. E.	Corneal macula.	Normal.	By spatula	Normal.	None.	None.	22	$^{20}/_{100}+$	....	$^{20}/_{70}+$
29	J. S.	27	Semi-hard.	Irido-chorioiditis, blind eye, great pain.	Normal; iris separated from its adhesions to capsule throughout entire circumference of pupil.	By spatula	Normal.	None.	Several.	14	0		
30	J. R.	58	Hard, L. E.	None.	Normal.	Spontaneous.	Normal.	None.	None.	16	$^{20}/_{100}$	Discis'n 3 wks. later.	$^{20}/_{40}-$
31	Mary W.	60	Hard, R. E.	Chronic conjunctivitis, but little secretion.	Normal.	Spontaneous.	Normal.	Iris incarcerated.	None.	13	$^{20}/_{70}+$	....	$^{20}/_{50}+$
32	Thos. K.	61	Hard, L. E.	None.	Normal.	Spontaneous.	Normal.	Iris incarcer.	None.	14	$^{20}/_{50}$	... .	$^{20}/_{40}+$
33	Wm. B.	64	Hard, L. E.	Chronic Bright's disease.	Profuse hæmorrhage into ant. chamb., rendering operation very protracted.	Spontaneous.	Very slow; outer lips of wound long patulous.	Iris incarcer.	None.	32	$^{20}/_{200}$	....	$^{20}/_{70}$
34	Ellen McL.	56	Hard, R. E.	None.	Normal.	Spontaneous.	Normal.	Iris incarcer.	None.	12	$^{20}/_{100}$	....	$^{20}/_{40}+$
35	Jas. C.	63	Hard, R. E.	Chronic Bright's disease.	Complete collapse of cornea.	Spontaneous.	Very slow; outer lips of wound long patulous.	Iris incarcer.	None.	30	$^{15}/_{200}$	Discis'n 2 wks. later.	$^{20}/_{100}$
36	P'trick C.	62	Hard, L. E.	Broad arcus senilis.	Normal.	Spontaneous.	Normal.	Iris incarcer.	None.	13	$^{20}/_{70}$	....	$^{20}/_{40}-$

pressure required to effect displacement and extrusion of the lens being greater. The removal of fragments of lens, cortex, or capsule, or blood-clots from the anterior chamber and field of the pupil is much more difficult in this operation, and irrigation of the chamber seems almost a necessity. Though I have had no personal experience of secondary prolapse of the iris, yet it would seem much more likely to occur in the simple operation than in the extraction combined with iridectomy.

From my limited experience it is not possible to lay down rules for a proper choice of cases in which this operation may be done. A narrow anterior chamber would, I think, contra-indicate its performance. It will probably be found practicable in the majority of cases, though in many an iridectomy will be indicated and even found to be necessary after the corneal section has been completed.

When there is reason for supposing in a given case that the vitreous is fluid or that the zonule is ruptured, either wholly or in part, an iridectomy renders the operation safer. If, after completing the corneal section, the iris is found rigid and inelastic, any attempt to force the lens past such an unyielding iris would probably cause loss of vitreous, or dislocation of the lens, or both, besides bruising the iris, and in such cases an iridectomy should always be done. The same reasoning would apply to a case in which the corneal incision was too short, though an attempt might be made here to increase the length of the incision in the cornea with the scissors. If the iris prolapses on the knife and is injured, the injured portion should of course be excised. Further experience will no doubt lead to a modification of some of these views.

A CASE OF SUPPOSED ANEURYSM OF THE ARCH OF THE AORTA.

By ALEXANDER B. POPE, M. D.

On August 2, 1887, the following case was presented for examination at the dispensary of Bellevue Hospital:

J. C., aged forty-five, married, a native of Ireland, but a resident of New York during the past forty-three years, a longshoreman by occupation. Family history good. No history of syphilis, but a well-marked alcoholic habit. The patient presented himself for the relief of neuralgic pain having its seat in the left side of the neck, left shoulder, and upper extremity as far as the elbow. This condition had lasted for months, and had been gradually growing worse. It was constant, and not affected by change of position. He complained further of hoarseness, which came on quite suddenly two weeks ago. Under pressure of a large number of patients he was examined hurriedly with the following result: Some fullness just to the left of the sternum, and corresponding to the first, second, and third intercostal spaces, was observed; also a well-marked pulsation, heaving or lifting in character. Palpation revealed nothing after repeated efforts to find a thrill. Percussion elicited dullness, corresponding to the pulsating area, over a space rather oval than circular, about three by four inches. Auscultation revealed absolutely nothing, although the lungs were not examined. Behind, to the left of the spinal column, nothing abnormal could be appreciated. Perhaps I should add that on examination of the heart it was noticed that both heart sounds were intensified. The pulsations were synchronous and of equal volume in the two radial arteries.

Some disappointment was felt that the diagnosis could not be clearly established, although strongly suspected, and the patient was dismissed with a prescription for the relief of his pain and the request that he should return two days later. One week later he returned, and a more careful and deliberate examination revealed the following facts: The pupils were equal, rather dilated, and responded to light. The radial pulsations corresponded precisely in time and volume. A comparison of the radial, however, with the femoral showed that pulsation in the latter artery was delayed, and that the volume of blood in the radial was abnormally great, whereas in the femoral it was unnaturally small. Unfortunately, no observations of a scientific character were taken to measure and compare these differences, and therefore I can only state that the pulse in the femoral was distinctly felt to occur later than in the radial, and the volume of blood in the latter was much greater than in the former. It was now noticed that the radials showed well-marked atheroma. An examination of the heart showed that it was not enlarged. On palpating over the area of pulsation, a thrill was at times felt distinctly, and a minute later could not be detected, although changes of posture, respiration, etc., were tried. Perhaps five minutes later it was distinctly felt. It was extremely faint when present, and entirely different from the pulsation, which was powerful at all times. In other respects the examination of the heart presented the same features as before. An examination along the posterior aspect of the spinal column was negative. The lungs showed on the left side in front some dullness, also at the apex behind. There was diminution of the respiratory murmur all over the left side in front and behind. No râles were heard. The right side of the chest was normal. The liver and spleen were not enlarged. There was no history of rheumatism. On close questioning, the patient acknowledged some shortness of breath on going up-stairs or on over-exertion.

The following day he was presented to the class at the New York Polyclinic as having aneurysm of the descending portion of the arch of the aorta.

The third examination, with the assistance of the physicians there present, revealed several interesting points. It was found that the radial arteries, while synchronous in pulsation, were not of equal volume. The left was distinctly smaller than the right. The thrill was transient as before, yet at one time or another every one present felt it. For the first time a murmur, indeed two murmurs, for I believe that they were not identical, were discovered. One was very faint and located at the left edge of the sternum, therefore corresponding nearly with the point of greatest prominence and impulse, between the second and third ribs. It was distinctly confined to a spot smaller than a silver dollar, single and systolic. The other, also single and systolic, was heard in the first interspace of the right side and transmitted faintly into the carotid. The latter murmur was supposed to be due to atheroma between the aneurysm and the heart; the former to the aneurysm. In passing directly between the right first interspace and the second left interspace a point was found where neither murmur could be heard. The patient was dismissed with precautionary directions as to diet and active exercise and the following prescription:

℞ Potas. iodid........ .... ℥ ss.;
Tr. digitalis....... .... ʒ ij;
Syr. sarsaparil. co... .... ℥ ij;
Aq........................... .ad ℥ iv.

M. Sig.: A teaspoonful in water three times daily.

The following day I was approached and asked to sign his death certificate. A visit to his wife, for the purpose of seeking a post-mortem, was made. In this I was unsuccessful, but learned the following interesting facts: The morning after last seeing me he went out early as usual to his work, but what he did no one knew, returning about 10 A. M. Almost immediately after entering his room, on the fourth floor of a tenement-house, he had a slight, short paroxysm of coughing, followed by hæmorrhage which was fatal in a few minutes. From his sister I learned for the first time that he had had a hæmorrhage about one week before seeing me, "during which he lost about one pint of blood."

There are several instructive features connected with the case: The faint character and transient nature of the thrill; the two murmurs, both transient and distinctly different; the aneurysmal murmur localized and weaker than the systolic aortic; paralysis of the left vocal cord from pressure on the recurrent laryngeal nerve; dullness and feebleness of the respiratory murmur on the left side. The last may have been caused by pressure on the left bronchial tube, or, what would seem more reasonable, from the position of the tumor upon the trachea, but in such a way as to direct the current of air largely into the right bronchus. Perhaps it compressed both the left bronchus and the trachea.

Lastly, the abnormal fullness of the right radial and carotids; the small volume of blood in the left radial upon one examination, and this together with delayed pulse which were constant in the femorals.

I am under obligation to Dr. Kempner, of Bellevue Hospital, who transferred the patient from the surgical class, into which he had wandered by mistake, to my care, with the suggestion that the case was one of aneurysm.

Correspondence.

LETTER FROM WASHINGTON.

The General Features of the Congress.—The Entertainments and Social Incidents.—The Trade Exhibits.

Washington, *September 7, 1887.*

Some time before the hour appointed for the opening of the congress, every seat, as well as most of the standing room, in Albaugh's New Opera-House was filled. The parquet was occupied by members, and the balcony and gallery were filled to overflowing by ladies and gentlemen and members who could not find seats in the parquet. The stage was occupied by President Cleveland, Secretary Bayard, Speaker Carlisle, Dr. N. S. Davis, president of the congress, Dr. John B. Hamilton, secretary general, Dr. A. Y. P. Garnett, Dr. H. H. Smith, Dr. L. A. Sayre, and other officers of the organization. At 11 A. M., the vast assemblage having been called to order by Dr. H. H. Smith, chairman of the executive committee, President Cleveland was introduced and in a few well-chosen words formally opened the Ninth International Medical Congress. After the report of the secretary general had been read, Dr. Garnett, chairman of the local committee of arrangements, announced the entertainments that had been provided for the members of the congress, viz., a *conversazione* at the United States Pension Hall; an informal reception at the White House by President Cleveland; a visit to the Corcoran Art Gallery; receptions by the citizens of Washington, expressing his regret that the month of September should have been chosen for the meeting of the congress, because many of the citizens were out of the city; a general reception and buffet banquet at the Pension Hall, and a visit to Mount Vernon. He also announced that a special excursion to Niagara Falls had been planned for the benefit of foreign members, to whom it would be free of cost. The Hon. Thomas F. Bayard, Secretary of State, was then introduced and delivered a formal address of welcome. He was followed by Dr. W. H. Lloyd, of the English Navy, Dr. Léon Le Fort, of Paris, Professor Semmola, of Naples, Professor Unna, of Hamburg, and Dr. Charles Rehrer, of St. Petersburg, each of whom in his own way expressed his gratification for the reception given, etc. Professor Semmola and Dr. Le Fort spoke in French and Professor Unna in German, the audience applauding when they thought applause would properly come in. Professor Semmola's animated manner attracted the attention of all, and his highly complimentary remarks in regard to *la grandeur* of this country won the warm applause of those who understood him, the entire audience, of course, joining.

The first of the entertainments, the *conversazione*, was one of the class which it is very difficult to describe, and I know of no way other than to call it an assemblage of men, women, and youths of both sexes, promenading to the music of a moderately fair band, in an immense hall lighted by the electric light and decorated with American flags and shields bearing the coats of arms of the several States of the Union. Everybody seemed to enjoy it, however, if smiling faces and movements in rhythm with the strains of music constituted enjoyment. The dignified Englishman, yielding to the influence of the occasion, unbent; the stolid German became more animated, the vivacious Frenchman more vivacious, and the impressionable Italian and Spaniard joined with the gallant American in admiration of the fair sex, of which there was a large, and I may add a quite fine-looking, representation. I can not state whether the punch dispensed was a factor, in conjunction with the other surroundings of the occasion, in producing the changes referred to, or not. An idea of the size of the hall can be formed from the dimensions as given in some of the daily papers, viz.: Length, from wall to wall, 316 feet; width, 116 feet: a surface area of 36,656 square feet. The height of the peak of the central gable from the floor is 150 feet. Further mention of the other entertainments that I have named would be only to repeat what is already known of such affairs in general—the usual crowding and jostling at the receptions, the rush for first place at table, etc. An estimate of the number of names recorded at the Registration Bureau gives a grand total of 2,500, of which number about 400 are those of members from abroad. In his report, the secretary general, Dr. John B. Hamilton, very modestly stated that the success of the Congress was "due entirely to the zeal and energy" of Dr. H. H. Smith, chairman of the executive committee. That much of its success is due to Dr. Smith's efforts I have no doubt, but my personal knowledge of the almost Herculean labors that have been performed by Dr. Hamilton warrants me in quoting and verifying the statement in your editorial in the Journal for September 3d, that "ever since his accession to the office, the prospects of the meeting have continually brightened," and I do not hesitate to assert that to Dr. Hamilton, as much as to any officer of the organization, belongs the credit of bringing order out of the chaos which followed the New Orleans meeting of the American Medical Association.

The exhibition of drugs, preparations, medical books, and surgical instruments and appliances has become an almost essential feature of medical conventions, and the display made at the present meeting far outshines anything of the sort I have ever seen. There are, in fact, two exhibitions in connection with this meeting: one at the Rifles' Armory, and the other, the principal one, at the Light Infantry Armory, under Albaugh's Opera-House, in which the general meetings are held. The preparations made in these displays of goods are quite elaborate and the general effect very pleasing to the eye.

THE
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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The registration reported up to the time of our going to press shows that, as was anticipated, the Washington meeting of the International Medical Congress is to be ranked among the largest gatherings of that body that have taken place. It is too early yet to make a final estimate of the success of the meeting from a scientific point of view; it can not even be said, prior to the closing days of the sessions, precisely who are to be present, as was aptly remarked by the president when the question was raised, on Monday, as to the expediency of electing absentees to office. It is probable, however, that almost all the foreigners who had made up their minds to attend were present at the opening of the proceedings.

The general addresses—those of them that have been delivered up to the time of this writing—have been of a character to command very general attention, especially in the printed form in which they will go before the profession at large. The president's inaugural address, which we publish in this number of the Journal, seems to us one of the most meritorious and praiseworthy literary achievements of a long life largely devoted to the interests of the medical profession as a body. It would have been pardonable for Dr. Davis to deal wholly with glittering generalities, but, as was to be expected of so straightforward a man, he chose to plunge early into the thick of a subject of high importance to medical science. In this, we think, he showed his characteristic wisdom. Dr. Flint's address, as was easy to be foreseen, was a thoughtful and suggestive essay, in every way worthy of presentation before the assembly over which the author's lamented father had been chosen to preside. Dr. Semmola's address, the first part of which will be found in this issue of the Journal, must be looked upon from more than one point of view; the one that will strike most of our readers is that of its earnest patriotism combined with a catholicity of feeling exemplified in very pleasing terms applied to Americans as a people. Of the other aspects of the Italian senator's address we leave our readers to judge on our completion of its publication.

A great deal of work has had to be gone through with in the sections, and much still remains to be done. The mere labor of the reading and disposal of papers is doubtless facilitated by the fact—it seems to be the fact thus far—that the attendance at the meetings of the sections is for the most part very moderate. On the other hand, it is to be feared that much time is snatched from the sessions and spent by many of the strangers in looking at the sights of Washington and, in the case of the foreign members, gazing at the superficial manifestations of a state of political and social existence that is to a great extent novel to the observers. So far as it goes, this indicates that any anxiety that was felt at the outset lest the entertainment provided would be insufficient was unnecessary.

The proceedings of the congress are too extensive to be given with any approach to completeness in a journal. We shall content ourselves with those of the general sessions, the first portion of which will be found in this issue, and with selections from the more important proceedings of the sections.

PERIPHERAL NEURITIS AND CHRONIC RHEUMATISM.

On several occasions we have referred to Pitres and Vaillard's observations on the condition of the peripheral nerves in certain affections, such as tabes, typhoid fever, and phthisis. Those observers have been extending their investigations in this direction in connection with various other affections, and in a recent number of the "Revue de médecine" they publish an account of what they have observed in chronic articular rheumatism. On examining the peripheral nerves in two cases of chronic rheumatism, last year, they were struck with the profound changes that they found in them, but, being unwilling to form conclusions on such slender a foundation, they resolved to make a thorough examination in the first case that presented itself. The opportunity soon occurred. A most searching examination was made of all the nerve-trunks supplying the extremities, as well as of the peripheral branches going to the muscles, the joints, and the skin. The patient was forty-nine years of age, and had suffered with chronic rheumatic polyarthritis since his thirty-sixth year, when his left shoulder first became affected, and then all the other joints in succession. He had the characteristic deformity of the fingers and dystrophia of the toe-nails. His cutaneous sensibility was normal. The skin of the legs and feet was covered with an ichthyotic desquamation. There was no atrophy of the muscles. No changes worthy of mention were found in any part of the nervous system (the whole of which was carefully examined), except the peripheral nerves. A great number of these showed parenchymatous degeneration such as is seen in neuritis of non-traumatic origin. The authors specify the nerves they found healthy and those they found diseased. Those supplying the upper limbs were found normal, but those going to the knees, the legs, and the feet contained, along with healthy fibers, others that had undergone the change above mentioned. Hence, neuritis can not be considered as the primary factor in the production of the articular affection, inasmuch as the peripheral branches going to the shoulder joints, which had undergone the most profound changes, were found quite healthy. It is impossible to say at present what *rôle* the neuritis plays in the causation of the pains in chronic articular rheumatism, but the authors feel convinced that to it are to be attributed the trophic changes not infrequently met with in the skin and the muscles. But, on the other hand, it does not follow that this lesion always brings about disturbances of the nutritive processes, for a latent neuritis without any symptoms may occur in rheumatism, as it often does in tabes, typhoid fever, and tuberculosis.

MINOR PARAGRAPHS.

AN INTERESTING REMINISCENCE.

Dr. Fessenden N. Otis, who was selected as acting secretary of the expedition which, in 1856, in pursuance of an Act of Congress, conveyed the British Arctic exploring ship "Resolute" across the Atlantic and formally restored her to the British government, contributes an interesting account of the affair, and of the circumstances which led to it, to the August number of the "Magazine of American History." The story has been reprinted, and forms a handsome and interesting pamphlet, illustrated with reproductions of several pictures made at the time, one of which—entitled the presentation of the "Resolute" to the Queen—includes a portrait of Dr. Otis.

"CHICHIPATE" AND CASCARA AMARGA.

"Plant Analysis as an Applied Science" is the title of a lecture delivered before the Franklin Institute, of Philadelphia, last winter, by Helen C. De S. Abbott, for a copy of which in its published form we are indebted to the author. Among the personal observations mentioned—and it was to them that the lecture owed its value—is one of a Honduras plant called "chichipate," from which the author had extracted a yellow dye, *chichipatin*. Specimens of *Cascara amarga* having been sent to her from Messrs. Parke, Davis, & Co.'s laboratory, where it had been found to contain an alkaloid resembling berberine, she came to the conclusion that the two plants were identical. "This incident is significant," she remarks, "as deciding by means of chemical analysis the identity of plants under distinct names from different regions."

A DEFECTIVE RAILWAY MEDICAL SERVICE.

In sharp contrast with the admirable medical service provided by many of the great railway lines of the West and by some of those in the East is that of the Ontario and Western road, if we may judge by an article lately inserted in the "Advance," a newspaper published in Middletown, N. Y. In fact, there seems to be no system at all worthy of the name. The company simply appoints medical men at various points, giving them no remuneration except free passage on its trains, but tacitly undertaking to collect their bills for them from its employees. The consequence is that proper men are disinclined to accept the appointments, and, where there is no appointee, the medical practitioners of the locality are not eager to respond to calls from the employees. Of course, the brunt of the results of this lack of common fairness falls on the company's men, but the physicians suffer by their attempts to remedy it.

THE WARD'S ISLAND LUNATIC ASYLUM.

A committee of the State Board of Charities, appointed to investigate the affairs of the New York City Asylum for the Insane, on Ward's Island, has presented its report. The deservedly high esteem in which the board has always been held will give great weight to its committee's report and the measures which it advises or suggests. The committee finds that overcrowding and parsimony, and especially the plan of treating the acutely insane and the chronically insane in such large numbers in a single institution, are largely chargeable with the unsatisfactory state of the asylum. In the matter of abuses and indignities alleged to have been practiced upon patients, the committee properly excluded from its consideration two cases in which legal inquiries are now pending, but it included a case in which a coroner's investigation had been held. It is gratifying to find that the committee was not convinced of the truth of the charges in that instance. To remedy matters, the committee recommends that the control of such institutions be confided to a commission, or, preferably, a single commissioner, appointed by the mayor, and directly responsible to him. The wisdom of this recommendation seems to us unquestionable.

THE CASE OF THE CROWN PRINCE OF GERMANY.

The "New York Times" complains that the Prince's condition is treated of in a gingerly way in the medical bulletins, and makes this remarkable statement: "A man who has a 'swelling' in his throat which has been removed by cautery, and the seat of which still shows a 'tendency toward congestion,' may reasonably be supposed to be suffering from cancer." The "Times" desires an authoritative statement that such is not the case with the Prince. It seems to us that that point has been abundantly covered by Professor Virchow, the substance of whose opinion of the case was made public a week or more ago.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.

The society's twelfth annual meeting, which is to be held in New York next week, is expected to be noteworthy among the meetings of that organization. The programme, which we publish elsewhere, is rather more extensive than usual, and the different sections of the country are pretty evenly represented by the members who are announced to furnish papers. The special feature of the occasion, however, will probably be the attendance of a number of European obstetricians and gynæcologists who have been invited to take part in the proceedings. This will undoubtedly add piquancy to the discussions and zest to the social incidents of the meeting. We trust that another noteworthy feature will be a larger attendance of general practitioners than was witnessed when the society last met in New York. As usual, the profession at large is invited to attend, and we think its members will find it worth their while to do so.

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS.

The dinner given by this body last Monday evening in Washington, in honor of distinguished medical editors from abroad, seems to have been of a character to please the gentlemen who compose the association. It is to be regretted that an Irish gentleman in attendance at the congress should have taken it as one of the entertainments provided by the managers of the congress, and for a time have felt so aggrieved at not having been invited as to withdraw from the congress. But all's well that ends well, and the gentleman in question is to be credited with doing the handsome thing in acknowledging his error and resuming his part in the meetings.

THE DURANTE-SEMMOLA AFFAIR.

It was hardly to be expected that so great an undertaking as that of managing a huge assembly like the congress now in progress in Washington, made up to a very considerable extent of foreigners, could be carried through without some chafing. It is none the less to be deplored, however, that the emulation of two distinguished representatives of a foreign government should have led to a contention resulting in the temporary humiliation of one of them. Had the ingenious priest who, as the song assures us, established the seventeenth of March as St. Patrick's birthday had a hand in adjusting the matter, two responses in the name of Italy might have been arranged for, but the next most graceful thing was done when the president called upon Dr. Durante to occupy the chair during the delivery of Dr. Semmola's formal address. on Wednesday. The distinguished Roman professor deserves great credit for finally getting the better of his sense of injury, and we can assure him that he is not at all humiliated in the eyes of the American profession. So far as any lesson is to be drawn from the incident, it seems to us to be this: that it is unwise for any of the participants in a scientific gathering to go to it clothed in any other dignity than that which appertains to their professional status. In our opinion, government representatives are unnecessary.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 6, 1887:

DISEASES.	Week ending Aug. 30.		Week ending Sept. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	31	4	45	12
Scarlet fever	31	9	33	3
Cerebro-spinal meningitis	2	1	5	5
Measles	11	1	7	1
Diphtheria	60	20	65	22
Small-pox	5	0	3	1

The Tenth International Medical Congress, to be held in Berlin in 1890, will undoubtedly prove of greater interest to Americans than those that preceded this week's meeting, owing to the fact that there has now been a meeting on our own soil.

Dr. Landolt, of Paris, the well-known ophthalmologist, met a number of New York physicians recently, by invitation of Dr. David Webster, at the Murray Hill Hotel. Among the gentlemen present were Dr. E. Gruening, Dr. J. Leonard Corning, Dr. Milton Josiah Roberts, and Dr. Ring.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 28, 1887, to September 3, 1887:*

Smith, Joseph R., Lieutenant-Colonel and Surgeon. Ordered to report in person to the Surgeon-General of the Army, on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 3, 1887:*

Dean, Richard C., Medical Director. Detached from duty as member of Examining and Retiring Boards and ordered to Hospital at Chelsea, Massachusetts.

Peck, George, Medical Director. Orders as Delegate to International Medical Congress revoked.

Simons, M. H., Surgeon. Detached from Constellation and ordered to the Naval Academy.

Rogers, B. F., Surgeon. Detached from Marine Rendezvous, New York, and ordered to the Alliance.

Field, James G., Assistant Surgeon. Detached from the Vermont and ordered to Marine Rendezvous, New York.

Henry, C. P., Assistant Surgeon. Ordered to the Ossipee.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to the Boston.

Atlee, Louis W., Assistant Surgeon. Restored to duty.

Society Meetings for the Coming Week:

MONDAY, *September 12th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *September 13th:* American Gynæcological Society (New York—first day); New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly, Elmira), Rensselaer, and Ulster (quarterly), N. Y.; Newark, N. J., and Trenton, N. J., Medical Associations.

WEDNESDAY, *September 14th:* American Gynæcological Society (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany and Montgomery (quarterly), N. Y.; Worcester, Mass., District Medical Society (Worcester).

THURSDAY, *September 15th:* American Gynæcological Society (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement.

FRIDAY, *September 16th:* Chicago Gynæcological Society.

SATURDAY, *September 17th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Nathan L. Hatfield, M. D., of Philadelphia, died on Monday, August 29th, at the age of eighty-three. The deceased was a native of Montgomery County, Pa., was educated in the University of Pennsylvania, and was graduated from the Jefferson Medical College in 1826, being a member of the first class graduated from that college. He was a Fellow of the College of Physicians, a member of the Philadelphia County Medical Society, of which he was at one time president; of the Pennsylvania State Medical Society, of which he was president in 1865; of the American Medical Association; of the Alumni Society of Jefferson Medical College, of which he was president in 1874, and an honorary member of the California State Medical Association. For many years he was manager and consulting physician of the Northern Dispensary.

Professor Adolf Pansch, of Kiel, as we learn from the "Lancet," was drowned in Kiel Bay on the 14th of August by the upsetting of his sail-boat. His son, who was with him in the boat, was rescued, though in a very exhausted state, by a passing steamer. As Professor Pansch was an expert swimmer, it is supposed that he died of shock at once, for he had suffered with organic heart disease for years. His career as a teacher of anatomy in the University of Kiel added notably to the attractiveness of that institution, and his anatomical writings have long been prominent in our literature.

Proceedings of Societies.

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

Held in Washington, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday, September 5, 6, 7, 8, 9, and 10, 1887.

The General Sessions.

THE opening meeting was called to order at 11 A. M., in Albaugh's Opera-House, by the chairman of the Executive Committee, Dr. HENRY H. SMITH, of Philadelphia.

The President of the United States was introduced by the chairman and spoke as follows: "I feel that the country should be congratulated to day upon the presence at our capital of so many of our own citizens and those representing foreign countries, who have distinguished themselves in the science of medicine, and are devoted to its further progress. My duty on this occasion is a very pleasing and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

The Election of Officers was then proceeded with, and resulted in the prompt confirmation of the nominations made by the Committee on Organization. Dr. NATHAN SMITH DAVIS, of Chicago, having been elected president, and Dr. JOHN B. HAMILTON, of the Marine-Hospital Service, secretary general, the latter took the chair and put the other nominations, which included those of the following-named gentlemen as vice-presidents:

United States.—Surgeon-General Moore, of the army, and Surgeon-General Gunnell, of the navy (ex-officio); Dr. William Brodie, Detroit; Dr. W. H. Dawson, Cincinnati; Dr. A. Y. P. Garnett, Washington; Dr. Edward M. Moore, Rochester; Dr. Tobias Richardson, New Orleans; Dr. Lewis A. Sayre, New York; Dr. Joseph R. Smith, New York; Dr. J. M. Toner, Washington.

England.—Dr. Cuthbert H. G. Bird, Dr. A. Pearce Gould, Mr. Ernest Hart, Dr. Jonathan Hutchinson, Sir James A. Hambury, Sir William Jenner, Dr. Fred B. Jessett, Dr. William H. Lloyd, Dr. William Murrell, Dr. Jeffrey A. Marston, Mr. Thomas J. MacLagan, Dr. John Marshall, Dr. Morell Mackenzie, Dr. William A. MacKinnon, Dr. Charles D. F. Phillips, Dr. Richard Quain, Sir John W. Reed, K. C. B.; Mr. William H. Savory, Sir Edward H. Sieveking, Dr. John Tweedy, Sir Henry Thompson, Sir William W. Gull, London; Dr. J. Ewart, Brighton; Sir E. Walter Foster, Birmingham; Sir Thomas Longmore, Netley; Dr. John D. McDonald, Surrey; Dr. John Withers, Brighton; Sir William Roberts, Manchester; Dr. John B. Sanderson, Oxford; Mr. Lawson Tait, F. R. C. S, Birmingham; Sir John Tomec, Surrey; Dr. George M. Humphrey, Cambridge; Dr. T. M. Dolan, Halifax.

Scotland.—Dr. McCall Anderson, Glasgow; Mr. Thomas Annandale, Edinburgh; Dr. John Chiene, Edinburgh; Dr. T. R. Frazer, Edinburgh; Sir Douglass Maclagan, Edinburgh; Dr. George H. B. Macleod, Glasgow; Sir William Turner, Edinburgh.

Germany.—Dr. William Kohler, Berlin; Dr. Frederick Esmarch, Kiel; Dr. A. L. Gusserow, Berlin; Dr. W. D. Muller, Berlin; Dr. Carl von Mosengsill, Bonn; Dr. P. G. Unna, Hamburg; Dr. Waldeyer, Berlin; Professor E. Winckel, Munich.

France.—Dr. Dujardin-Beaumetz, Paris; Professor A. Charpentier, Paris; Dr. A. Chervin, Paris; Dr. Valin, Paris; Professor Trélat, Paris; Dr. Léon Le Fort, Paris.

Austria.—Professor Carl Braun, Vienna; Dr. Wenderfer, Vienna; Dr. Hans R. von Hebra, Vienna.

Switzerland.—Dr. F. Dumont, Berne; Dr. Theo. Kocher, Berne.

Italy.—Dr. Francesco Durante, Rome; Dr. O. Morisani, Naples; Dr. Mariano Semmola, Naples.

Egypt.—Dr. J. A. S. Grant, Bey, Cairo.

Ottawa.—Dr. Q. A. Grant.

Havana.—Dr. Nicholas José Gutierrez.

Copenhagen.—Dr. Wilhelm Meyer.

Honolulu.—Dr. John S. McGrew.

Belgium.—Dr. Leopold Servais, Antwerp.

Dublin.—Sir William Stokes.

East Indies.—Dr. George J. H. Evatt.

The Hague.—Dr. J. E. de Virij.

Dr. W. B. Atkinson, of Philadelphia, and Dr. G.-B. Harrison, of Washington, were elected associate secretaries, and Dr. E. S. F. Arnold, of New York, was elected treasurer. Dr. R. J. Dunglison, of Philadelphia, was made chairman of the finance committee, and Dr. Henry H. Smith, of Philadelphia, chairman of the executive committee.

The Report of the Secretary General was then read by Dr. Hamilton. He said it was now a matter of history that in May, 1884, the American Medical Association had passed a resolution inviting the congress to hold its next session in the United States. At the meeting in Copenhagen, when the question came up for disposition, Washington was selected. The committee, having borne the invitation and secured its acceptance, returned home, and immediately began the work of organization. Shortly before the meeting of the American Medical Association in New Orleans, in May, 1885, the preliminary organization was completed. But it transpired that this committee was unable to form an organization satisfactory to the majority of the members of the association, and after some discussion a resolution was adopted which authorized the appointment of additional members of the committee so as to include, in accordance with our American system of representation, one member from each State and Territory, and to these were added one representative from each of the three public medical services. The enlarged committee met in Chicago, and a majority of the first committee was present and acted harmoniously with the new committee. In a short time, however, the members of the orginal committee withdrew, and the management had thus been deprived of their valued services. The committee had, therefore, had to contend against more than the ordinary difficulties attending so great an undertaking.

The Committee of Arrangements, through the chairman, Dr. A. Y. P. Garnett, of Washington, announced the programme of entertainments, including an excursion to Mount Vernon, an excursion to Niagara Falls, various receptions, etc. Dr. Garnett added that it had been a source of profound regret and embarrassment to the committee that the month of September should have been selected for the meeting, and that they felt it due to themselves and to the citizens of Washington to explain why there had not been a more general and spontaneous manifestation of that bountiful hospitality for which the city had at all times been so justly distinguished. It was hoped that the guests would not fail to understand and appreciate the unfortunate fact that they had come to a city absolutely and entirely deserted for the time by the larger portion of its inhabitants, and that those whose official and social positions entitled them to the privilege of extending a cordial welcome to their homes were necessarily deprived of that pleasure by absence. He would add that the labors of the committee had been truly Herculean, and embrace the occasion to return his thanks to the chairmen of the various sub committees for the fidelity, zeal, and patience displayed in the execution of their respective duties.

The Address of Welcome was then given by the Secretary of State, the Hon. Thomas F. Bayard, as follows: The pleasing duty has been assigned to me of giving expression, in the name of my fellow-countrymen, to the gratification felt by us all that you should have selected this capital to be the scene of your ninth congress, and cordially to bid you welcome. The world is becoming better acquainted; social assimilation has progressed; small provinces and minor kingdoms are federalizing into great empires; international intimacy suffers less obstruction; the broad and powerful current of literature is silently wearing away the banks of geographical prejudice, and a spirit of a common brotherhood, of mutuality, and of interdependence is expanding itself irresistibly over the barriers of mountain and sea; and these new and beneficent conditions give promise that the word "stranger" shall soon be obliterated from the vocabulary of civilization. You, gentlemen, will not, I hope, feel—and I am sure you will not be considered by us—as strangers in the United States; for not only has the fame of many of your number—whom to name might seem invidious—long since surpassed the limits of your own lands and been recorded in the world's annals of scientific attainment, but I take leave to say that here especially will your claims for public respect and grateful acknowledgment, due to your enlightened services, find prompt and hearty allowance by the populations who dwell amid the blessings of civil and religious liberty beneath the broad banner of the United States. If letters be a republic, science is surely a democracy, whose domain is penetrated and traversed by no royal road, but is open to all sides and equally to all who with humility and intelligence shall watch and wait for light as it is gradually disclosed by Divine Providence for the amelioration of mankind. In this democratic republic the brotherhood of science can best realize its universality; for here you will find institutions for the promotion of science in every department, and in none more conspicuously than in that of medicine and surgery, the most important of which are the voluntary gifts of private citizens—men who, in the great majority of cases, were painfully limited in their associations with science and letters, who began life at the lowest round of Fortune's ladder, but, thanks to the noble equities of our political system, rose without "invidious bar" to the highest level of material success and public usefulness. To the public spirit and benevolence of such individuals is due the endowment, on a scale that princes may envy but have never surpassed, of schools of science, colleges, and universities, open for the intellectual training and advancement of all who desire to share and are competent to receive such benefits. Your congress is held, gentlemen, in the closing year of the first century of our national existence, and what has been here accomplished in the line of scientific edification and equipment owes comparatively little to official or governmental assistance. To no system of prescriptive privilege, but to individual energy, enterprise, and generosity, we owe what under God we now possess of such things, and non-interference by the government has proved a promotion and not a hindrance in our advancement. Busy in every department of industrial pursuit, engrossed with diversified occupations, and hurrying with a breathless energy that has left its traces upon the physiognomy of our people, yet, believe me, we are not deaf to the calls of humanity nor lacking in appreciation and grateful respect for the votaries of science. We welcome this congress as guardians of the sanitation of the nations. In your profession we recognize the noblest school of human usefulness, and in the progress of the development of the laws of cure, the mitigation of suffering, the prolongation of human existence, and the efforts to discover the true principles and conditions by which life can be made "worth living," we have learned to appreciate our debt to those whose highest reward is the "still small voice of gratitude" and consciousness of benefaction to the human race. Gentlemen, I confidently promise your convention a worthy audience—not alone the members of your profession here assembled, nor the limited number whom this building can contain, but that vaster audience to whom, upon the wings of electrical force, your message will be daily borne far and wide to the listening ear of more than sixty millions of American citizens. Sure am I that your message will be worthy, and equally that your thoughtful deliverances will be welcomed by a continent. The closer relations of mankind which modern invention has induced has been necessarily accompanied by an increased dissemination of disease, and the need is obvious of frequent international conference that, in the grand sweep of scientific observation, new discoveries in the healing art may be promptly tested and applied in counteraction. Forgive me if, as one of the great army of patients, I humbly petition the profession that in your deliberations Nature may be allowed a hearing when remedies are proposed; that her *vis medicatrix* may not be omitted in computing the forces of cure, and that science may be restricted as often as possible to sound the alarm for Nature to hasten, as she surely will, if permitted, to the defense of the point assailed. My duty is very simple, and I fear I have already overstepped its limit, for there was indeed little more for me to say than to repeat the words of an ancient dame whose cottage was close by the battle-field of Waterloo, and, being somewhat deaf and hearing the sound of the artillery when the famous "pounding" was hardest, thought she heard some one knocking at her door, and simply said, "Come in!" This may seem an unscientific illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte, and I can assure you the American people will hear you and heartily say to you, as I do for them, "Come in!"

Brief Responses from representatives of foreign countries were called for by the president, and given as follows:

Dr. William H. Lloyd, of the British Navy, said: Mr. President: I rise to perform the agreeable task which has been allotted to me of returning thanks on the part of the medical profession of Great Britain and Ireland, as represented by my professional brethren and myself now present at this congress, for the warm and eloquent welcome we have just heard from the Honorable Secretary of State of the United States. It is with great diffidence I rise to perform this task in the presence of the eminent men of world-wide reputation in medical science who are now present among the English members of the congress, and I could not have felt justified in undertaking it did I not know that my selection for the task was due to my official position as representing one of the public services of Great Britain. I have now to express our warm thanks and appreciation of the kind and cordial welcome we have received from the congress, and the honor conferred by the presence and approval of the high officers of state of this truly great country.

Dr. Léon Le Fort, of Paris, spoke in French, substantially as follows: Mr. President and Mr. Secretary of State: I appear in the name of my countrymen to thank you for your welcoming words. We have crossed the Atlantic to bring to our American colleagues the testimony of our sympathy. The reception which was accorded us in Philadelphia has already proved to us that we can count upon theirs. In designating Washington for the session of the International Congress the physicians of Europe desired to affirm their high esteem for the American medical profession. This is not the time to recall the progress for which we are their debtors, but we may recall that it is to America that we owe one of the greatest of modern scientific discoveries—anæsthesia. With it, not only is pain suppressed, but operations have been rendered possible which, without it, would be impracticable. The congress of Washington will be worthy of those who have thus contributed to the progress of science. Be pleased, Mr. President and Mr. Secretary, to accept the respect and the thanks of the French physicians present at the congress.

Dr. Mariano Semmola, of Naples, also spoke in French. He said he was happy to have the honor of replying in the name of Italy and of bringing the salutations of that nation, which regarded with profound interest the marvelous growth of this edifice of independence—the United States. He felt it a duty to thank those present for the welcome accorded his *confrères* and himself. Such a welcome, indeed, they could not have failed to receive from a people not only noted for intelligence and industry, but with whom hospitality went hand in hand with nobility and generosity of heart. He believed international congresses incontestably one of the best means of binding peoples together in liberty, equality, and fraternity. But of all the international congresses in which he had had the honor of representing Italy, he believed that of Washington would exert the greatest influence.

The President's Inaugural Address was then delivered (see page 283).

On motion of Dr. C. D. F. Phillips, of London, a vote of thanks to the president was passed.

Tuesday's session was called to order by the president, at 10.15 a. m.

Fever; its Cause, Mechanism, and Rational Treatment.—Dr. Austin Flint, of New York, read an address on this subject. If, he said, important organs were protected in fever, and the nutrition of the body was supported, the fever would run its course and leave the patient in a condition for rapid convalescence. In acute fever there was an inherent tendency to recovery. The principal object of the paper was to show how the metamorphosis involved in the production of animal heat was accomplished; how abnormal production of heat in fever, involving, as it did, abnormal activity in metamorphosis of tissue, might be restricted, and how abnormal destruction of tissue might be limited and the tissue repaired. The speaker reviewed the evidence in favor of the production of water within the system, in addition to the water taken in with the food and drink, and the development of heat thereby. His evidence included experiments by Senator and others, and also experiments upon himself. The following is a summary of the address: Fevers, especially those belonging to the class of acute diseases, were self-limited in duration, and were each due to a special cause, a micro-organism; and their duration ceased after the lapse of a certain time. We were unable as yet to directly destroy the morbific organisms, and we must be content for the present to moderate their action and to sustain the patient's powers of resistance. The production of animal heat involved the oxidation of parts of the organism or articles of food, represented in the formation and discharge of nitrogenous excrementitious matters, carbonic acid, and water.

In regard to its relations to general nutrition in the production of animal heat, water formed in the body by the process of oxidation was to be accounted an excrementitious principle. Fever, as observed in the so-called essential fevers, might be defined as a condition of excessive production of heat involving defective nutrition or inanition, and excessive production and discharge of nitrogenous excrementitious matters and carbonic acid, with waste and degeneration of tissues and partial or complete suppression of the production and discharge of water. Aside from the influence of complications and accidents, the ataxic symptoms in fevers, the intensity and persistency of which endangered life, were secondary to the fever, and were usually proportionate to the elevation of the temperature. These symptoms were ameliorated by treatment directed to reduction of the temperature. In health, during a period of inanition, the consumption of the tissues in the production of heat was in a measure saved by an increased production and excretion of water. In fever the effects of inanition were intensified by a deficient formation and excretion of water. Alimentation in fever was difficult mainly on account of derangement of the digestive organs. This difficulty was to be met by the administration of articles of food easily digested, or articles partly digested when eaten. Alcohol presented a form of hydrocarbon which was promptly oxidized and became absorbed without previous digestion. Precisely in so far as it was oxidized in the body, alcohol furnished matter which was consumed in the excessive production of heat in fever, and saved destruction of tissue. The introduction of matters consumed in the production of heat in fever diminished rather than increased the intensity of the pyrexia. As the oxidation of alcohol necessarily involved the formation of water, and limited destruction of tissue, its action in fever tended to restore normal processes and the normal heat production, in which the formation of water constituted a great part.

Wednesday's session was called to order by the president.

Practical Medicine, Bacteriology, and the Experimental Method.—Dr. Durante, of Rome, having been asked to take the chair, Dr. Mariano Semmola, of Naples, delivered his address on this subject (see page 286). Dr. Semmola spoke in French, apparently without referring to his notes.

On motion of Dr. L. A. Sayre, of New York, a vote of thanks to Dr. Semmola was passed.

Dr. Albert L. Gihon, of the navy, offered the following, which was carried:

Resolved, That the president of the congress be authorized to appoint a committee consisting of an equal number of members from each nationality represented in the congress, for the purpose of selecting the place of meeting of the Tenth International Medical Congress, to be held in 1890, to report Friday morning.

(*To be continued.*)

Book Notices.

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse. Von Dr. Edwin Klebs, Professor der allgemeinen Pathologie und der path. Anatomie an der Universität Zürich. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Aetiologie. Mit 66 theilweise farbigen Abbildungen im Texte und 8 Farbentafeln. Jena: Gustav Fischer, 1887. Pp. xiv–6 to 514.

This volume forms the first part of a very comprehensive work, and is devoted to the consideration of the causes of diseased processes, or general pathological ætiology. The complete work is to consist of three parts, the two which are to follow being intended to cover the extensive ground of general pathological morphology and physiology.

Specific description and detailed criticism would hardly be appropriate until the entire work is before us. Although each part will be complete in itself, still it is evident that the consideration, even of ætiology, can not be confined to the first part. Tumors and degenerative processes, for example, have not been included in it. By far the largest part of it is occupied, as might have been expected, with bacteriology, this being preceded by the subjects of hereditary and acquired predispositions to disease.

The spread of bacteria through air, water, and earth is fully considered, as well as the morphology of vegetable and animal parasites. Methods of cultivation, of examination for purposes of diagnosis, and of the staining and mounting of microscopic preparations, are all given in full and with abundant illustrations. After this the author takes up the general and local diseases of bacteritic origin, and considers each of them in great detail.

Anthrax, malarial diseases, yellow fever, typhoid fever, diphtheria, dysentery, gastritis, enteritis, tuberculosis, leprosy, glanders, syphilis, all receive careful consideration, with special reference to the micro-organisms which are at present brought into causative relations with them.

After these diseases have been thus treated at great length, the author passes to specific and detailed accounts of the various micro-organisms which have not been treated of in the earlier chapters of the work. The special cocci of septicæmia, erysipelas, gonorrhœa, pneumonia, variola, measles, scarlet fever, and cattle plague, are included in this list. The next chapter is devoted to cholera and relapsing fever. Animal parasites are not forgotten.

To obtain even a superficial idea of the immense amount of ground covered by this work one must study it carefully; no review within the limits which are necessarily prescribed in these columns can convey an adequate impression of its comprehensiveness. It contains an enormous amount of material that will well repay one for a careful perusal. All the latest observations in the realm of bacteriology are given with great completeness; the bacteriological and microscopical techniques are treated of with the greatest care and attention to minute details.

The press-work is excellent, and the illustrations, many of which are colored, are carefully drawn and clear. The exact bibliography at the end of each chapter, as well as the subject and author indices at the end of the volume, contributes in no small way to its usefulness.

Clinical Studies of Disease in Children. By Eustace Smith, M. D., Fellow of the Royal College of Physicians, Physician to his Majesty the King of the Belgians, etc. Second edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xv–318. [Price, $2.50.]

This little book, out of print now for nearly five years, has been revised and considerable new matter has been added, especially in the chapters upon croupous pneumonia, pleurisy, and tubercular peritonitis. Twenty pages are devoted to a general consideration of the peculiarities of symptoms and therapeutics in early life. Stress is laid upon the dangerous character of many functional diseases in infancy, depending upon the impressible nervous system. For this reason autopsies are very frequently unsatisfactory, no discernible organic changes being found, even when very positive symptoms existed during life. The temperature is much more easily disturbed in children than in adults. The author has frequently seen it rise to 104° or 105° F. just before the eruption of a tooth when no other cause existed.

In some remarks upon dosage, arsenic is mentioned as being particularly well borne by children those over five years old taking the same doses as adults. Irregularity of the pulse is of itself of no diagnostic importance; a very rapid pulse is quite apt to be irregular. When it is slow and irregular, it suggests meningitis. This is a point of diagnosis between pneumonia with cerebral symptoms and meningitis.

The second part of the book is devoted to the narration of forty cases illustrative of the variations of pneumonia, pleurisy, general tuberculosis, and tubercular meningitis and peritonitis. The cases are related in the author's well-known graphic style, first typical ones and then the common and uncommon varieties, followed by a discussion upon the cases separately, and some general remarks upon the disease, especially with reference to differential diagnosis and treatment. The selection of cases has been carefully made, and the clinical reports are supplemented in many instances by full autopsy records. A graphic picture of the disease is thus put before the reader's mind which is second in value only to a personal observation of the patients.

The author is a firm believer in pulmonary collapse as a prominent pathological feature of pulmonary disease in infants. He accepts the inflation test as distinguishing this condition from pneumonia. We are glad to see that he combats the idea, made so much of in many text-books, that it is with apex pneumonia that cerebral symptoms are generally associated. He has found them quite as often when the base of the lung was affected. Cool baths, at 70° F., are highly spoken of in the hyperpyrexia of this disease, care being taken to stimulate the patient freely before and after the bath. When the chest contains fluid, continued pyrexia is no evidence that the fluid is purulent; the temperature is more likely to depend upon the natural irritability of the patient, or upon complications, particularly pericarditis. Flattening of the chest laterally, and bulging anteriorly, are the only changes in shape that are reliable as signs of effusion.

Enough has been cited to give an idea of the plan and scope of the book. It is full of practical suggestions, and, like all the author's writings, it is readable—a quality which is lamentably wanting in so much of our medical literature. More books of this class, distinctly clinical, would be a real boon to the physician, who is now obliged to wade through so much that is repeated in many text-books to get at the author's real experience. In binding, type, and style the book leaves nothing to be desired.

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbststudium. Begründet von RUD. WAGNER, fortgeführt von OTTO FUNKE, neu herausgegeben von Dr. A. GRUENHAGEN, Professor der medizin. Physik an der Universität zu Königsberg im Pr. Siebente, neu bearbeitete Auflage. Mit zweihundertundfünfundachtzig in den Text eingedruckten Holzschnitten. Dreizehnte Lieferung. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 561 to 758.

THIS is the concluding number of a work of which we have frequently given favorable notices in this journal. It deals with the physiology of reproduction, the last chapter (pages 612 to 696) being devoted to embryology. The general index covers upward of sixty pages, and is unusually full. In dismissing a work of such dimensions we can only repeat that its high character has been sustained throughout, and that the reader of German will find it a useful advanced text-book, especially valuable by reason of the exhaustive bibliography.

On the Pathology and Treatment of Gonorrhœa and Spermatorrhœa. By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. New York: William Wood & Company, 1887. Pp. x–474. [Price, $4.]

IN our issue for April 30th we published a notice of Mr. Milton's work on "Spermatorrhœa," which seems to constitute the second part of this volume. The first part, on "Gonorrhœa," has long been before the profession, and well deserves the position it has won. It shows an intelligent study of the disease and its complications. We think the publishers have done well to combine the two works in one volume.

Transactions of the Academy of Medicine in Ireland. Vol. IV. Edited by WILLIAM THOMPSON, M. A., F. R. C. S., General Secretary. Dublin: Fannin & Company, 1886. Pp. 463.

THIS volume contains sixty-one contributions on subjects pertaining to medicine, surgery, obstetrics, pathology, state medicine, and anatomy and physiology. They represent two years' work by the Academy, and are of great practical and technical interest. Some of them were written by men who are well known to the profession of our own country. A few of the titles will show the scope of the volume: "True Relapse in Typhoid Fever," "The Cardiac Murmurs of the Mitral Area," "The Therapeutic Uses of the Digestive Ferments," "Bone Drainage in the Treatment of the Early Stages of Hip Disease," "Axis-traction in Instrumental Delivery," "The Use of the Curette," "The so-called Laparotomy Epidemic," and "The Sanitary Condition of Dublin Dairy Yards."

GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—C. Richet, "Essai de psychologie générale." (2*fr.*)

ASSELIN & HOUZEAU, Paris.—C. Paul, "Diagnostic et traitement des maladies du cœur." 2d ed. (16*fr.*)

J. B. BAILLIÈRE & FILS, Paris.—J. Cyr, "Traité pratique des maladies du foie." (12*fr.*) —— H. Bachelet, "Conseils aux mères de famille sur la manière de nourrir leurs enfants et de se nourrir elles-mêmes." 2d ed. (2*fr.*)

A. DELAHAYE & E. LECROSNIER, Paris.—Ferrand, "De l'exercice et des troubles de la parole et du langage." (1*fr.* 50.)

O. DOIN, Paris.—P. Rodet, "Guide de l'étudiant en médecine et du médecin praticien." (3*fr.* 50.) —— J. Fontan and C. Ségard, "Éléments de médecine suggestive." (4*fr.*) —— A. Baréty, "Le magnétisme animal." (14*fr.*) —— A. Filleau and L. Petit, "Bulletin du laboratoire de recherches expérimentales et cliniques sur le traitement aseptique de la phthisie pulmonaire." 1st part (2*fr.*), 2d part (3*fr.*) —— F. Franck, "Leçons sur les fonctions motrices du cerveau . . . et sur l'épilepsie cérébrale." Preface by Charcot. (12*fr.*)

G. MASSON, Paris.—J. Arnould, "L'eau et les bactéries, spécialement les bactéries typhogènes."

Bureaux du "PROGRÈS MÉDICAL," Paris.—Bourneville, "L'année médicale," 1886. (4*fr.*) —— Bourneville, "Manuel pratique de la garde-malade et de l'infirmière." 3 vols. (5*fr.*) —— R. Blanchard, "De l'anesthésie par le protoxyde d'azote, par la méthode du professeur P. Bert." (3*fr.*)

F. VALLARDI, Rome.—"Collezione italiana di letture sulla medicina." 1st and 2d series. (Each, 10*l.*) [These series of lectures seem to be arranged on the plan of Volkmann's "Sammlung klinischer Vorträge." The first and second series contain lectures by Bozzolo, Bottini, Marchiafava, Chiara, Manfredi, Forlanini, De Giovanni, Caselli, Burresi, Perroncito, Concato, Pagliani, Morselli, Silvestrini, Sanquirico, De Renzi, and Maragliano—twelve lectures in each series.]

F. C. W. VOGEL, Leipsic.—F. Löffler, "Vorlesung üb. die geschichtliche Entwickelung d. Lehre von den Bacterien." 1st part. (10*M.*)

WREDEN, Brunswick.—A. Seeligmüller, "Lehrbuch d. Krankheiten des Rückenmarks u. Gehirns, sowie d. allgemeinen Neurosen." 2d part.

BOOKS AND PAMPHLETS RECEIVED.

Druitt's Surgeon's Vade-mecum. A Manual of Modern Surgery. Edited by Stanley Boyd, M. D., B. S., Lond., F. R. C. S., Eng., Assistant Surgeon and Pathologist to the Charing Cross Hospital, and Surgeon to the Paddington Green Hospital for Children, etc. Twelfth Edition. With Three Hundred and Seventy-three Wood Engravings. Philadelphia: Lea Brothers & Co., 1887. Pp. xvi–33 to 985. [Price, cloth, $4.]

The Student's Guide to Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital, Assistant Surgeon to the Royal London (Moorfields) Ophthalmic Hospital, etc. Third American from the Fourth English Edition. With a chapter on Examination for Color Perception. By William Thomson, M. D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1887. Pp. xx–13 to 475. [Price, $2.]

State of New York. State Board of Charities. In the Matter of the Investigation of the New York City Asylum for the Insane Report, August 12, 1887.

Colonial and International Congress of Inebriety, London, England, July 6 and 7, 1887. Papers and Addresses by Delegates from the United States of America. Also a Report of a Reception given to T. D. Crothers, M. D., by the President and Council of the Society for the Study of Inebriety in Great Britain. Extracted from the Minutes of the Congress.

Reports on the Progress of Medicine.

MATERIA MEDICA AND THERAPEUTICS.

By H. N. Vineberg, M. D.

Phosphorus in Rickets.—Soltmann ("Ctrlbl. f. die ges. Ther.") has had good results with phosphorus in seventy cases of rickets. He observed an improvement in the general condition, in appearance, in appetite, and also an increase of bodily weight. The functions of the bowels became regular, and the digestive disturbances caused by phosphorus were not noticed in a single instance. The nervous phenomena, the sleeplessness, the restlessness, but more particularly the spasms of the glottis, rapidly disappeared in the majority of the cases in about ten days. On following up the cases, he observed a disappearance of all the usual bone affections.

W. Meyer ("Inaug. Dissert.," Kiel, 1885) met with similar good results in forty-two cases of rickets in which phosphorus was administered after the usual treatment with lime salts and the like had failed. The drug had especially a good influence upon digestion; hence phosphorus can not be considered as contra-indicated in the various gastric disturbances witnessed in rickets; on the contrary, these frequently disappear under its administration. He would look upon phosphorus as a specific in rickets, which, when properly administered, always leads to positive results.

Petersen ("Ctrlbl. für Chir.") has given phosphorus in two hundred cases of rickets, and has never met with a bad result. He considers it a specific in that disease.

Sigel ("Würtemb. mediz. Corresp.") concludes, on the basis of forty cases in private practice, that general treatment is of the greatest importance in the therapeutics of rickets, but that, instead of giving, as heretofore, iron and lime preparations, phosphorus should be administered.

Unruh made extensive observations during 1885 and 1886 in the Dresden Hospital for Children, and he is of the same opinion as Kassowitz, that, in the majority of cases, rickets is a congenital disease. He expresses himself as follows in reference to phosphorus: It is a valuable remedy in rickets, and is more efficacious than all other remedies heretofore recommended. By an early administration of the drug he was able to prevent the usual bone deformities of that disease, and this he was able to do in children coming to the Poliklinik, with the most unfavorable hygienic surroundings, as well as in those in private practice.

Toeplitz ("Breslauer ärztl. Zeit.") treated five hundred and eighteen cases of rickets with phosphorus in combination with cod-liver oil. He did not observe any ill effects, although this combination was given even in summer. In all the cases he observed in a short time an improvement in the general condition of the children; the nervous symptoms and pains in the limbs disappeared, and motion became more active. Of two hundred and eight cases of craniotabes, one hundred and seventy-six were cured in eight weeks; of fifty-eight cases of laryngismus stridulus, the attacks ceased in from eight to fourteen days, after having continued for months in spite of other forms of treatment. The influence upon dentition was beyond a doubt. The bodily weight increased, the lungs expanded, the circumference of the thorax increased, and the catarrhal conditions disappeared. It is mentioned as a particular advantage of this method of treatment that the good effects are independent of the surroundings, which, in the majority of cases, can not be altered.

[Any one who has followed German medical literature for the past two years will have a vivid impression of the polemical discussions on the subject of the treatment of rickets with phosphorus. The disputants contested their points with the vigor and bitterness of the religious fanatics of a by-gone age. Not a small portion of the discussion was devoted to the question of priority in recommending phosphorus in rickets. In this connection it will be of some interest to American readers to turn to a pamphlet on the anæmia of children, written by Professor A. Jacobi several years ago. In it the author threw out the suggestion that, on the basis of our knowledge of the chemical processes going on in the body, phosphorus should be beneficial in the affections of children characterized by bone lesions.]

Cundurango in Carcinoma of the Stomach.—L. Riess ("Ctrlbl. f. d. ges. Ther."; "Berl. klin. Woch.") begins an extensive article by giving the negative results he has obtained with cundurango bark in affections of the stomach other than carcinomatous. In about fifty cases of dyspepsia due to acute and chronic gastric catarrh which he had treated with this drug, the results were no better than would be obtained by other well-known bitter barks. On the contrary, in a number of these it was not so well borne. The results were equally negative in carcinomas which were not limited to the stomach. In secondary carcinoma of the stomach the administration of the remedy was followed by improvement of the appetite, but left the course of the disease uninfluenced. But in primary cancer of the stomach—which, in addition to anorexia, vomiting, cardialgia, was manifested by progressive cachexia and eventually by a palpable gastric tumor—the results were positive. Of such cases the author had observed one hundred and twenty treated with cundurango during the years from 1878 to 1886 in the Berlin General Hospital. Of these, however, full histories exist only of eighty cases. As a result of his experience, the author states that he did not witness a single case in which the remedy was of no avail. Even in the last stages of the affection, during the last week of life, an improvement of the appetite and general condition was always noted. The effects were much more striking when the remedy could be given for a time (three to four weeks). In this connection the author met with the pleasant experience that patients who could not tolerate any other internal medication took the bark willingly, and continued it for a length of time without any remonstrance. Riess employed the drug in much larger doses than those given by Friedreich and other clinicians. He gave it in a decoction to the amount of ten grammes (ʒ ijss.) per diem. The majority of those patients who were treated for a sufficient length of time by the cundurango showed, in a few days, an improvement of the appetite and a disappearance of the nausea, and also of the vomiting when this was not due to a marked stenosis of the pylorus or extreme dilatation of the stomach. In eight to fourteen days a marked influence upon the gastric pain was noticed, which entirely disappeared after a time. Simultaneously with the increase of the appetite the powers of assimilation were improved, manifested by the general condition of the patient and by his increased strength. In not a few cases there was an increase of the bodily weight. In a large series of cases the impression was gained that life was decidedly prolonged with the cundurango. The author follows with tables comparing the longer duration of life in cases treated with the drug in those not so treated. Of sixty-four cases in which a tumor was palpable, seventeen showed a decided diminution in the size of the mass, and in eight cases it entirely disappeared. The author makes allowances for errors in diagnosis, but is quite positive that undoubted cases of carcinoma of the stomach can be cured with cundurango. Of course, in addition to the use of the drug, the symptoms must be treated as they arise in the usual manner. The author always administered it in the form of a macerated decoction (℥ vj), 180 grammes of which, containing 10 grammes (ʒ ijss.) of the bark, were given daily with 20 grammes (ʒ v) of the syrup of orange-peel. He never observed any ill results from its employment—not even furuncles, which large doses are said to produce.

Salol in Acute Articular Rheumatism.—Dr. Bielschowsky (*ibid.*) has employed salol in twenty-seven cases of acute rheumatism. The remedy was given in capsules in five-gramme (ʒ j, gr. xv) doses daily. Smaller doses—two to three grammes (gr. xxx–xlv)—were given in the after-treatment to remove any slight pains that might remain. Of the twenty-seven cases, nineteen were promptly and completely cured; in two cases salol had only a slight influence, and salicylate of sodium had to be resorted to. The other six cases passed into the chronic form in spite of the administration of both remedies. Of the nineteen cured cases, fourteen could be considered as severe, partly on account of the high fever and partly on account of the number of joints that were affected. In eight cases relapses occurred, which always yielded readily to salol given in smaller doses than in the first attack. On an average, it took from four to eight days before all the morbid phenomena disappeared. In one case the disease resisted the remedy for ten days, but in the majority of cases every trace of the affection vanished in three days. In four patients slight cardiac disturbances occurred, which, however, on the discharge of the patients, were no longer to be detected. Three patients had mitral affections, the result of prior attacks; these were not rendered worse by the fresh attack. It is beyond a doubt that salol is a specific in acute rheumatism in the same sense as salicylic acid, antipyrine, and antifebrine. But it has the advantage over these in that its employment is entirely free from untoward effects. One patient had slight noises in the ears, and another had eructations for a time. Beyond these not a single unpleasant symptom was observed. Exanthems and perspiration were never noticed. It was particularly to be remarked that gastric and intestinal disturbances were not noted in a single instance; the patients ate and enjoyed the usual hospital fare.

Dr. Siegfried Rosenberg (*ibid.*) has employed salol as an antirrheumatic in the Berlin Jewish Hospital. On the whole, the drug was prompt in its effects, so that in from twenty-four to forty-eight hours the fever abated and the pains in the joints were decidedly less. The longest period it took for these symptoms to disappear entirely was five days, and only in one very severe case were no effects observed after ten days. In this case salicylate of sodium gave prompt relief within twelve hours. The doses given corresponded with those stated above. The author gained the impression that relapses were more common than after the use of salicylate of sodium. He thinks that it has no power to prevent complications. In all the cases carbolic-acid discoloration of the urine was observed. Noises in the ears, perspirations, nausea, and vomiting were noted, but continued disturbances of digestion were never seen, as after the employment of salicylate of sodium. In two cases an aversion to the drug was experienced after a short period, so that it had to be discarded. One advantage salol always has over the salicylates is the absence of any irritation to the gastric mucous membrane, inasmuch as salol is insoluble in the gastric juice, and only becomes soluble when it passes into the intestines, where it meets with the pancreatic juice, which splits it up into salicylic acid and phenol.

Dr. Otto Seifert (*ibid.*), on the recommendation of Georgi, has used a mouth gargle of salol in various ulcerative processes in the mouth, with very good results. He employed an alcoholic solution—6 to 100 grammes (ʒ jss.–℥ iijss.)—of which he ordered a teaspoonful in a glassful of warm water to be used freely as a gargle. He did not obtain so good results with the drug in the form of powder.

[For further information upon salol, we would refer our readers to our report upon therapeutics for September 11, 1886.]

Hyoscine Hydrochloride.—Dr. Kobert ("Ctrlbl. f. die ges. Ther.") writes that hyoscine forms the principal constituent of the so-called amorphous hyoscyamine, and is obtained from the latter by partial precipitation with chloride of gold. So far it has not been obtained in the crystalline form, and it is isomerous with atropine and hyoscyamine. For the purposes of the following experiments it was combined with hydrochloric acid, the resulting compound crystallizing readily. Hyoscine passes out unchanged with the urine. It acts on the heart of the frog, as also on that of warm-blooded animals, in the same way as atropine, in removing the inhibiting power of the vagus. In frogs, as well as in the isolated kidneys of warm-blooded animals, it produces dilatation of the blood-vessels. The vaso-motor center is not influenced by it; neither is the pulse. The saliva and perspiration are diminished in man. It paralyzes the motor nerves of the intestines when these are stimulated with muscarine. It acts on the pupil more quickly and more powerfully than atropine, but the action does not continue. On the brains of healthy individuals it acts as a mild narcotic. As a result of experiments upon insane patients, it may be stated that in periods of excitement its administration is promptly followed by sleep in ten to fifteen minutes. It was given only when the usual hypnotics had failed. It has no sedative action on animals. It is of no use, and may even be injurious, in insomnia dependent upon somatic diseases. Hyoscine does not appear to be at all fatal in animals, and even in man Sohrt has never seen any symptoms of poisoning beyond inco-ordination, dilatation of the pupils, and dryness in the throat.

Fuchsin in Albuminuria.—Dr. L. Riess (*ibid.*) employed fuchsin in twenty cases of nephritis of various forms, which differed both in the stage of the disease and in the quantity of albumin excreted. The doses given were large—much larger than those recommended by Bouchut. As much as 0·5 gramme (gr. vijss.) was commonly given daily, and in not a few cases as much as 1 gramme (gr. xv). In twelve cases the daily quantity of albumin was estimated. Of these twelve cases, only two showed a decided decrease of the albuminuria. In one of the cases, after fourteen days' administration of the drug, the quantity of albumin became *nil.* In the other cases the average quantity of the albumin before treatment was 6·84, during treatment it was 2·98, and after treatment it was 1·98. Three weeks after the cessation of the use of the drug the albumin disappeared. The remedy was well borne, even in large doses and for a lengthened period. The duration of the treatment extended, for the most time, from ten to fifteen days, occasionally for three weeks, and in one case forty-four days. The author has never seen, as a consequence of the treatment, a red discoloration of the urine and nails, nor digestive disturbances, headache, and other nervous phenomena.

Solution of Cocaine in Liquid Vaseline.—Bigna-Lima ("Bull. gén. de thérap.") has found that cocaine is soluble in liquid vaseline in the proportion of 2 in 100. This solution, in his hands, possessed powerful anæsthetic qualities, and kept exceedingly well. In his eye clinic he found that one drop would produce complete anæsthesia of the ocular conjunctiva. This was followed in about thirty-five to forty minutes by dilatation of the pupil, which disappeared in from five to six hours. Two drops of this solution did not interfere with accommodation. He was enabled to inject with impunity four Pravaz syringefuls (ʒ j) in surgical operations. He thinks that this method of employing cocaine supersedes the salts of that drug, which are difficult of preservation.

Arsenic in Cystic Goitre.—Dr. Snow ("Brit. Med. Jour.") speaks highly of arsenic in cystic affections of the thyreoid gland. In one case in which he employed the drug the thyreoid enlargement entirely disappeared. In two other cases the improvement was very marked in a short time, but the patients ceased attending very soon after the treatment was beginning to show its influence.

Poisoning by Pennyroyal.—J. Girling (*ibid.*) relates a case of this kind. He saw the patient (a woman aged forty) an hour after she had taken the drug. She was then in a collapsed condition. The face was pale, cold, and bedewed with beaded sweat, and the hands and feet were cold and clammy. She lay apparently unconscious, but could at first be roused by shaking and shouting to her, rapidly sinking, however, into a state of profound coma. The pupils were normal in size, and responded to light. The action of the heart was exceedingly weak, irregular, and fluttering, the pulse at the wrist being scarcely perceptible. There were jactitation and feeble retching, with much salivation, but no vomiting nor purging; temperature was 97° F. The breath smelt very like peppermint. Free emesis was produced by hypodermic injections of apomorphine and copious libations of warm water. After the vomiting the patient seemed about to die, and brandy, in the absence of ether, was administered hypodermically with the very best results. The writer thinks that pennyroyal should be classed among the narcotic heart poisons. It transpired afterward that the woman had taken ℥ j of the essence of pennyroyal (which she had obtained from an apothecary), composed of ʒ j of the oil and ʒ vij of spirit.

Miscellany.

The American Gynæcological Society will hold its twelfth annual meeting at the Academy of Medicine, in New York, on Tuesday, Wednesday, and Thursday, September 13th, 14th, and 15th. Members of the profession are cordially invited to be present. The programme includes an Address of Welcome, by Dr. Fordyce Barker, of New York; "A New Method of Closing the Peritoneal Sac after Tait's Operation," by Dr. R. Stansbury Sutton, of Pittsburgh, Pa.; "A Study of the Causes and Treatment of Uterine Displacements," by Dr. Thomas Addis Emmet, of New York; "Cystocolpocele complicating Labor and Pregnancy," by Dr. Samuel C. Busey, of Washington; "Is Salpingitis to be treated by Extirpation of the Tubes and Ovaries in all Cases?" by Dr. William M. Polk, of New York; "Drainage after Laparotomy," by Dr. Paul F. Mundé, of New York; "The Therapeutic Value of some Medicines in the Treatment of Hæmorrhagic Conditions of the Uterus," by Dr. C. D. Palmer, of Cincinnati; "Case of Laparotomy: Death from a Rare Cause," by Dr. James B. Hunter, of New York; "On the Differential Diagnosis between Fibroid Polypus and Inversion of the Uterus," by Dr. William T. Lusk, of New York; the President's Address, by Dr. Alexander J. C. Skene, of Brooklyn; "On the Treatment of the Pedicle after Supravaginal Hysterectomy," by Dr. George Granville Bantock, of London; "The Intra-uterine Stem in the Treatment of Flexures," by Dr. A. Reeves Jackson, of Chicago; "Galvanic and Faradaic Measurement," by Dr. George J. Engelmann, of St. Louis; "The Operation for Ventral Hernia after Laparotomy," by Dr. James R. Chadwick, of Boston; "Battey's Operation: its Matured Results," by Dr. Robert Battey, of Rome, Ga.; "The Infantile Uterus," by Dr. A. W. Johnstone, of Danville, Ky.; a paper (subject not announced), by Dr. Theophilus Parvin, of Philadelphia; "Extra-uterine Pregnancy and its Treatment by Electricity," by Dr. Ely Van de Warker, of Syracuse; "Vaginal Injections in Sims's Posture," by Dr. Frank P. Foster, of New York; "A Note on the Treatment of Puerperal Eclampsia," by Dr. Charles Jewett, of Brooklyn; "The Hystero-neuroses," by Dr. George J. Engelmann, of St. Louis; and "A New Forceps for the Removal of Intra-uterine Growths," by Dr. R. Stansbury Sutton, of Pittsburgh, Pa.

The New York State Medical Association will hold its fourth annual meeting at the Hotel Brunswick, New York, on Tuesday, Wednesday, and Thursday, September 27th, 28th, and 29th. The programme includes the following items: "The Use of Hot Water in Surgery," by Dr. Theodore R. Varick, of Jersey City; "Bichloride of Mercury, its Uses and Abuses," by Dr. Charles S. Wood, of New York; "Gall-stones," by Dr. Robert H. Sabin, of Albany Co.; "A Contribution to the Study of Hip-joint Disease," by Dr. Nathan Jacobson, of Onondaga Co.; "Report of a Case of Pancreatic Cyst successfully Removed," by Dr. William S. Tremaine, of Erie Co.; a discussion on "The Management of Compound Dislocation of the Ankle Joint," to be opened with a paper by Dr. Edward M. Moore, of Monroe Co., propounding the following questions: "When should amputation be practiced, and when should other methods be employed?" (to be discussed by Dr. Uri C. Lynde, of Erie Co.)—"If amputation is to be performed, at what point should it be done to render the stump most useful, the risks to be encountered being equal?" (to be discussed by Dr. Joseph D. Bryant, of New York)—"Should the luxation be merely reduced, or should some bony tissue be removed, and how much?" (to be discussed by Dr. Frederick Hyde, of Cortlandt Co., and Dr. Charles W. Brown, of Chemung Co.)—"What dressing and after-treatment will conduce to the best result with least risk to the patient?" (to be discussed by Dr. Frederic S. Dennis, of New York); "Exudative Conjunctivitis," by Dr. Alvin A. Hubbell, of Erie Co.; "Methods of Applying Cold," by Dr. Henry D. Didama, of Onondaga Co.; "Irritable Stumps—Causation," by Dr. Joseph D. Bryant, of New York; "Intrarectal Treatment of Hæmorrhoids," by Dr. Leroy J. Brooks, of Chenango Co.; "Feigned Diseases, and their Connection with Medical Jurisprudence," by Dr. Simeon T. Clark, of Niagara Co.; "A Case of Double Vagina with Hymen," by the same; a discussion on "Typhoid Fever," to be opened with a paper by Dr. Alfred L. Carroll, of Richmond Co., propounding the following questions: "Does the term typhoid fever properly include all the varieties described by observers, or are there other, still undifferentiated, continued fevers commonly grouped under this head?"—"Is typhoid fever always the product of a specific contagium from a pre-existing case, or may it arise *de novo* from filth-fermentation?" (both questions to be discussed by Dr. Edward G. Janeway, of New York, and Dr. Frank W. Ross, of Chemung Co.)—"What part is played by micro-organic ferments in the causation of enteric fever?" (to be discussed by Dr. Hermann M. Biggs, of New York)—"Is there a disease of the lower animals transmissible to man as typhoid fever?" (to be discussed by Dr. D. E. Salmon, of Washington, D. C., Dr. R. S. Huidekoper, of Philadelphia, Pa., and Dr. James Law, of Tompkins Co.)—"What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation?" (to be discussed by Dr. Charles A. Leale, of New York, and Dr. Everard D. Ferguson, of Rensselaer Co.)—"What are the complications and sequelæ properly associated with typhoid fever?"—"What are the indications for treatment, and are relapses or untoward complications favored by some antipyretic measures?" (both questions to be discussed by Dr. Charles G. Stockton, of Erie Co.); an Address in Medicine, by Dr. John Cronyn, of Erie Co.; "Hay Fever and its Cure," by Dr. John H. Price, of Chemung Co.; "Malaria and some of its Peculiar Manifestations," by Dr. Richard C. Van Wyck, of Dutchess Co.; "Cold as a Therapeutic Agent," by Dr. B. L. Hovey, of Monroe Co.; "The Small-pox in Brooklyn: Defective Isolation and Defective Vaccination," by Dr. Nelson L. North, of Kings Co.; "Specialists," by Dr. Henry C. Van Zandt, of Schenectady Co.; a discussion on "Placenta Prævia," to be opened with a paper by Dr. George T. Harrison, of New York, propounding the following questions: "In cases in which the placenta is prævia, what anatomical and physiological facts explain the hæmorrhage occurring during pregnancy, and why is hæmorrhage unavoidable during miscarriage or labor?" (to be discussed by Dr. Charles C. Frederick, of Erie Co., and Dr. Isaac E. Taylor, of New York)—"In this anomaly, what is the source of the hæmorrhage, and what is the mechanism of its arrest?" (to be discussed by Dr. Darwin Colvin, of Wayne Co., and Dr. S. B. W. McLeod, of New York)—"If placenta prævia is diagnosticated during pregnancy, is the induction of premature labor indicated?" (to be discussed by Dr. T. Gaillard Thomas and Dr. William T. Lusk, of New York)—"During labor, when the placenta is prævia, what mode of treatment best subserves the interests of the mother and the child respectively? Is that plan of treatment which best conduces to the preservation of the mother's life incompatible to a certain degree with the child's interest?" (to be discussed by Dr. Rollin L. Banta, of Erie Co., and Dr. William H. Robb, of Montgomery Co.)—"After childbirth, what therapeutical measures will most certainly guard against the dangers of hæmorrhage and septic infection?" (to be discussed by Dr. John G. Orton, of Broome Co., and Dr. John Shrady, of New York); "Acute Mania," by Dr. James C. Hannan, of Rensselaer Co.; "A Case of Epilepsy," by Dr. John P. Sharer, of Herkimer Co.; and "A Case of Intrarectal Larvæ, with Gastritis, in an Infant," by Dr. Charles S. Allen, of Rensselaer Co.

Proprietary Medicines.—The "St. Louis Medical and Surgical Journal" says: "'Should the physician use in his daily practice a "proprietary" medicine? Can he, as a reputable practitioner, recommend these preparations in his correspondence with medical journals without lowering the dignity of his profession, or making himself amenable to discipline for a violation of time-honored principles of medical ethics?' These questions have been put to this journal, and perhaps to others, with the request that they be answered editorially; and while, as put, they are very broad, admitting of much latitude in replying, we think we but voice the general opinion of those who have given the subject any thought, in answering both of them, in a general way, in the affirmative. The gist of the whole matter depends upon what is meant by the term 'proprietary medicine.' In its limited and best sense we understand by the term a remedy of which the ingredients and their proportions are made known to the profession, and the trade or proprietary name of which is alone protected by law. When such preparations are made exclusively for the use of the medical profession, and are advertised exclusively in medical journals, we can not see any possible lowering of professional dignity, or deviation from 'time-honored principles of medical ethics' on the part of the physician who uses them in his daily practice, or who recommends them in his communications to medical journals. The name, in this class of proprietary medicines, is to be regarded simply as the guinea's stamp—a guarantee of the purity and genuineness of the product; and the registration of it—patenting it, if you please—is as much for the protection of the physicians who use it as for the parties who manufacture the remedy. It in no sense makes the drug a 'patent medicine' any more than does the writing of 'Fairchild' before pepsin, 'Merck' before or after an alkaloid, or 'Schering' or 'Squibb' before chloroform, transfer these chemicals into that category. These men—Merck, Schering, Fairchild, Squibb, and a few others—have devoted their lives, and spent enormous sums of money, in making their products the purest and best that can be attained by human honesty and human ingenuity; and, as a reward, their names attached in *copyrighted labels* to their chemicals stand as a perpetual guarantee to the physician and patient against the fraud and greed of less honest manufacturers, and it would be a great injustice to them, as well as to the profession and public, to deprive them of this guarantee.

"The question may be, and frequently is, asked by the purists, usually by the very old, or by very young members of the medical or pharmaceutical profession, aspiring to be considered very scientific, 'Why should a physician resort to these ready-made prescriptions at all? Why does he not draw upon his own knowledge of applied therapeutics and write out his own formulæ in every case? Why does he prescribe this one's sugar-coated pills or that one's gelatin-covered granules?' Why, indeed? Simply because he knows that these articles, being made in vast quantities, by improved apparatus and appliances, manipulated by highly trained and educated employees, and directed by skilled chemists, can be made better, more accurately, and far cheaper than they could be compounded by the most skillful prescriptionist. He does it for the same reason that he buys a watch ready made from the jeweler, or a buggy ready made from the carriage-maker.

"The most serious charge that is brought against the makers of some of the best known, most valuable, and most frequently used proprietary medicines, is that the formulæ given by the manufacturers are not the true ones, or, as Dr. Craighill, of Lynchburg, Va., in a paper read before the Virginia Pharmaceutical Association, at its last May meeting (published in the 'Virginia Medical Monthly' for June, 1887), puts it, 'a patented proprietary remedy which professes to publish its formulary *but does not.*' If this charge were true, it would indeed be a grave one and a just cause for the banishment of such medicines from the list of those which the physician may use 'without lowering the standard of professional dignity,' etc. But when we examine into the matter, we find the sole ground for the charge to be that when the ingredients as named are put together by the physician himself, or by the prescriptionist, offhand, though it may be *secundum artem*, the result frequently differs very widely from the preparation which it is intended to imitate. This fact would go far to prove the charge did we not remember that in all chemical processes *manipulation* has a great deal to do with results, and that the *element of time* has a value that nothing else can supply. A mixture in which no amount of shaking will produce combination or solution offhand, or no amount of filtration will clarify, will frequently become perfectly limpid when given the requisite length of time. We are informed by Mr. Lambert that listerine requires eleven days in its preparation, and Messrs. Battle & Co. tell us that bromidia, for instance, requires six days for the thorough combination of its ingredients. We have no doubt that many other such remedies require even more time for their perfection, and no amount of skill on the part of the pharmacist can possibly make up for this element in their preparation. These facts are fully recognized in France and Germany, and we find the highest class of the medical journals of these countries full of advertisements and notices of preparations exactly analogous to our proprietary remedies."

The City Board of Health.—At a meeting of the Board of Health of the Health Department of the City of New York, held August 3d, it was resolved "that Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. Daniel M. Stimson, and Dr. Joseph O'Dwyer be and are hereby requested by the board to act as a consulting medical and surgical board of the Willard Parker Hospital and of other hospitals of the Department in East Sixteenth Street."

At a meeting held August 11th, the following resolutions were passed:

"That provision be made by this board to refund quarterly, during the coming year, to the physicians of this city who may be engaged in private practice the amounts that may be expended by them for postage in reporting births and contagious diseases to this Department."

"That the recommendations of the Sanitary Superintendent, for securing a full registration of births, be approved, and that he be directed to take the necessary measures to enforce a proper reporting of the same to this Department."

It is estimated that at least twenty per cent. of the births are not now reported.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for July, the whole number of deaths reported during the month was 11,463, being the largest ever recorded in that publication for any one month. In each thousand deaths there were 320 from diarrhœal diseases, 8·88 from typhoid fever, and 32·68 from diphtheria. There was "but a limited number of deaths" from all other zymotic diseases.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 1st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 13th corresponded to an annual rate of 23·7 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Halifax, viz., 13·2, and the highest in Newcastle-on-Tyne, viz., 30·2 in a thousand. Small-pox caused 1 death in Sheffield and 1 in Cardiff.

London.—One thousand eight hundred and eighty-five deaths were registered during the week ending August 13th, including 34 from measles, 21 from scarlet fever, 21 from diphtheria, 61 from whooping-cough, 19 from enteric fever, 412 from diarrhœa and dysentery, and 14 from cholera and choleraic diarrhœa. There were 175 deaths from diseases of the respiratory organs. Different forms of violence caused 59 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 23·3 in a thousand. In greater London 2,390 deaths were registered, corresponding to an annual rate of 23 in a thousand of the population. In the "outer ring" 150 deaths from diarrhœa, 9 from measles, and 6 from diphtheria were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending August 13th in the sixteen principal town districts of Ireland was 24·1 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9·6, and the highest in Dublin, viz., 30·7 in a thousand.

Dublin.—Two hundred and thirteen deaths were registered during the week ending August 13th, including 27 from measles, 6 from whooping-cough, 2 from enteric fever, 22 from diarrhœa, and 1 from dysentery. Diseases of the respiratory organs caused 26 deaths. Three accidental deaths were registered, and in thirty-three instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31·5 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 13th corresponded to an annual rate of 19·3 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 13, and the highest in Greenock, viz., 26·7 in a thousand. The aggregate number of deaths registered from all causes was 482, including 9 from scarlet fever, 1 from measles, 5 from diphtheria, 28 from whooping-cough, 1 from fever, and 27 from diarrhœa.

Eighteen thousand six hundred and eighty-five deaths were registered in Scotland during the quarter ending June 30, 1887, including 235 from measles, 103 from scarlet fever, 484 from whooping-cough, 53 from diphtheria, and 60 from fevers. The mortality was equal to an annual rate of 18·8 in a thousand of the estimated population.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending July 30th, corresponded to an annual rate of 30·6 in a thousand. The lowest rate was recorded in Kassel, viz., 15, and the highest in Charlottenburg, viz., 63·1.

Naples.—The United States consul, in his dispatch under date of

August 10, 1887, with reference to cholera, states that "no official bulletin is published, and the authorities appear to withhold all information in regard to the disease; but I am credibly informed that up to the present time there have been about 35 cases of Asiatic cholera at Naples, 25 of which have proved fatal. In Resina, a short distance from Naples, there are from five to seven cases per day. The mortality is about two thirds. The disease has so far appeared in a sporadic form."

Rome.—The vice-consul-general telegraphed August 25, 1887, as follows: "Have been five deaths from cholera at Rome since 16th instant."

Havana.—Eighteen deaths from yellow fever and 47 from small-pox are reported for the week ending August 18, 1887.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	August 13.	2,260,045	973	..	....	9	....	21	6	20
Glasgow	August 13.	545,678	186	..	....	....	....	1	1	1
Warsaw	August 6.	439,174	269	..	....	21	....	....	....	....
Calcutta	July 9.	433,219	163	16	....	....	....	....	....	....
Amsterdam	August 13.	378,686	148	..	....	1	....	1	....	...
Munich	August 6.	269,000	231	..	....	....	....	....	....	1
Palermo	August 14.	250,000	148	55	...	....	....	2	10	1
Belfast	August 13.	224,422	85	..	....	...	1	....	1	1
Genoa	August 13.	179,377	73	..	....	....	1	....	....	1
Trieste.	August 6.	150,157	76	..	....	6	....	....	2	2
Stuttgart	August 13.	125,510	40	..	....	....	....	....	1	....
Toronto.	August 20.	120,000	19	..	....	....	....	....	....	2
Havre	August 13.	112,074	107	..	....	3	....	17	....	1
Reims	August 13.	97,903	42	..	....	....	....	....	1	1
Guayaquil	August 4.	30,000	57	..	....	7	....	....	....	....
Gibraltar	August 7.	23,631	17	..	....	....	....	1	....	1

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two hundred and seventy-four cases and 62 deaths have been reported up to date, making an increase of 17 cases and 9 deaths during the past nine days.

THERAPEUTICAL NOTES.

Ethereal Injections in the Treatment of Cystitis.—Chandelux ("Lyon méd."; "Ann. des mal. des organes génito-urinaires") has made use of vesical injections of a thirteen-per-cent. ethereal solution of iodoform in a number of cases of obstinate cystitis, and reports satisfactory results. He regards the iodoform as playing only a subordinate part, and attributes almost all the efficiency of the treatment to the ether, which, he thinks, acts by becoming vaporized and thus distending the contracted bladder. The fact of its vaporization is shown by a tympanitic percussion sound in the hypogastrium. Distension of the bladder by the forcible injection of a liquid, he remarks, is often not well borne; the bladder is intolerant, and contracts spasmodically when such a distending force is made use of. But distension by means of a vapor is so gentle and manageable—the expansive force of the gas and the contractile power of the bladder being very nearly balanced—that spasm does not result. The iodoform is expelled with the urine, and is not deposited on the interior of the bladder.

Aconitine in the Treatment of Syphilitic Headache.—Leroy ("Ann. de dermat. et de syph."; "Rev. hebdom. de thérap."; "Gaz. hebdom. des sci. méd.") reports good results from the use of aconitine in headaches of syphilitic origin, especially those of the secondary period. He thinks it ought always to be tried when an idiosyncrasy interferes with the employment of potassium iodide and quinine. But it does harm rather than good in cases where the pain depends on a serious cerebral lesion; hence it may be used for diagnostic purposes. The amount administered in twenty-four hours by the author never exceeded $\frac{15}{1000}$ of a grain. He does not state what kind of aconitine he made use of, but probably it was Duquesnel's.

Fluid Extract of Quebracho as an Application to Wounds.—Bourdeaux ("Arch. méd. belges"; "Rev. gén. de clinique et de thérap.") says that fluid extract of quebracho, applied to a wound, a burn, an ulcer, or a frost-bite, is more healing even than iodoform. Spread over such a surface, it dries in the course of half an hour, forming a tough and very adhesive brownish crust, which can be removed only with the aid of warm water; and cicatrization advances rapidly.

ANSWERS TO CORRESPONDENTS.

No. 36.—A long and very interesting article on the subject, by Dr. George J. Engelmann, of St. Louis, is to be found in the fifth volume of the "Transactions of the American Gynæcological Society." Dr. Engelmann afterward wrote a small book on the same subject, entitled "Labor among Primitive Peoples." Such studies are not only curious, but valuable.

No. 37.—Any member of the profession is at liberty to attend the meetings, but no one who is not a member can take part in the discussions, except by invitation.

No. 38.—The peculiar dating is in the original. The purpose is to indicate the date of publication according to both the old style and the new style, the latter being still observed in Russia.

No. 39.—Fold each individual strip over the end of a large spatula, and push it gently under the limb from one side far enough to enable you to seize the loop on the other side; then pull one end through.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

SCIENTIFIC MEDICINE AND BACTERIOLOGY
IN THEIR RELATIONS TO
THE EXPERIMENTAL METHOD.

An Address delivered before the Ninth International Medical Congress at Washington, September 7, 1887.

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(*Concluded from page 293.*)

I MIGHT still continue the enumeration of the new methods of cure proposed for all the diseases which were believed to originate from parasites, but it would be time lost. That which I am anxious to impress upon you is the systematic blindness of similar currents of ideas not able to reduce themselves even before the most overwhelming death statistics. The physician, when he is blinded by a system, always finds a good reason to console himself for his non-success, and continues in this headstrong way to travel along the road into which a preconceived idea has made him enter. Still, for the calm observer—really the friend of progress—who has arrived by the experimental method, it would have been so easy and so natural to foresee those curative failures, since that immense mass of microscopic studies, applied first to pathology and then to therapeutics, with few exceptions, were built on sand, completely trampling under foot the laws of the experimental method. It is true that man lives continually besieged by myriads of microscopic beings that are always ready to invade his organism, and to contend with him for the materials of which he has need in order to live; and it is not less true that sometimes in this combat for existence some of these infinitely small beings, that have the same right to live as he, are capable of causing in our body revolution and death. Behold, one of the greatest conceptions, an indisputable conquest of modern biology, and perhaps one of the most eloquent teachings for man, who, superior in physical force to the greater number of animals by which he is surrounded, accustomed to pitch his tent from one pole to the other, to substitute for the immense virgin forests the luxurious fields, and destroy all with iron and fire, preserving only what he sees fit, and who had proclaimed himself King of Nature, whose motto for his own use was *vœ parvis*, it did not seem possible that he in his greatness should humbly submit to the inexorable laws of circulation of the matter and force—and instead the microscope has placed under our eyes a new world, and he has been obliged to remain stupefied by the untold activity which therein takes place.

There are, without doubt, pathological microbes; this point of the science was proved by the researches of Davaine and of other illustrious microscopists. After these ideas the problem which naturally arose was that of discovering with what mechanism these enemies of man, so infinitely small, dared to attack and sometimes destroy a fortress so far superior to their invisible power. This grand problem which modern biology has placed before us was worthy of occurring in this great century, but on account of its immense difficulty it was necessary to impose the most scrupulous experimental rigor, and to profit with success by this revolution of the science there was need of the measured step of many and many generations, and to hurry things would only lead to those illusory exaggerations which we to-day must deplore. This is in reality the only reason by which the bacteriology of to-day, instead of constituting a gradual progress, constitutes a real systematic invasion, which is greatly favored by the inborn tendency of man to wish to explain everything at once. It is this disposition of man which has led experimenters to generalize beyond what they have seen, and decoyed them too far off from their starting-point. Instead of this, they should, before all else, have been able with great rigor to distinguish the true from the false enemies. If it is unfortunately true that some of these microbes are capable at times of killing a human being in a few hours, it is none the less true that ordinarily we can take in with impunity thousands of them in the water which we drink and the air which we inhale, and many millions during every twenty-four hours we live (Miguel's analysis of the air of the rue de Rivoli), still preserving the best of health. Naturally from this sprung the doubt whether that small fraction, so terrible, confronted by the immense majority of innocuous cases, did not have some connection with exceptional and invisible diseased conditions of those organisms which were attacked and overcome.

If, therefore, there was need of minute study of so many microbes, it was absolutely indispensable to investigate the special qualities of the soil in which they flourished, one of the most fundamental researches, beyond doubt, but at the same time nearly impracticable when we reflect upon the intra-organic sphere of the microbes. This research was completely suppressed. No one has dared to face it, and let this be said in honor of biological chemistry. But then, how was it possible to undertake the experimental solution of a problem of which one of the factors was unknown? Is it enough to observe in the blood of a patient a microbe to say that it has been the real cause of his disease? What is the limit between the microbes that are perhaps indispensable to normal life and those which produce some specific disease? Is it indeed enough to determine that such a microbe belonging to a pathogenetic type is really capable of causing a disease when it penetrates into the organism? It is allowable to doubt, according to the researches of Klebs, who affirms that in the same manner that there exist vegetable species that are poisonous, there are other species belonging to the same group and same family, and closely allied to the preceding ones, which have not this poisonous quality and can in no way acquire it—just as there are pathogenetic micro-organisms existing that can not be distinguished from others perfectly inoffensive, the latter preserving their innocuousness in any condition and during the whole of their existence. And I will further state that in the same way many plants, poisonous in their wild state, become harmless and even edible upon being cultivated, still preserving, intact and unchanged, all their morphology. Does this occur in the same way with the microbes, and does their morphology become inoffensive? The experiments made by their cultivation in other spheres authorizes us to conclude nothing, if we wish to obey the laws of the experimental method. Which, after rigorous researches (up to the present day) of the two, three, or four pretended microbes that have been discovered in the same disease is the true pathogenetic microbe? The authors of these observations have not been able to decide for themselves, and the colossal studies which are multiplying on every side with the cultivation of these microbes, we must honestly confess, have given results which are very questionable, if not altogether negative.

In general, the experimenters have shown themselves easily contented, and have always hastened to declare that from their inoculated cultivations such and such an *identical* disease was produced. But I appeal to the good faith of all these famous colleagues, who, if they are lovers of the discovery of truth, will tell me which are the artificial diseases produced by the inoculation of this cultivation, and if the natural primitive disease from which the germs were taken has really been reproduced; truly, I only know from human pathology of the existence of the bacillus of carbuncle, and it might be also said that of tuberculosis, but who can say he has seen reproduced a true paroxysm of malarial fever, or real diphtheria, or other diseases attributed to microbes? The infinite numbers of microbes to which successively have been attributed many of these diseases testify against the presumed results announced by different experimenters. But they will confute me by saying that the reason of this want of success was the difference of the field, because the pathogenetic bacteria, like all parasites, prefer a certain kind of animal—for example, the bacilli of carbuncle live prosperously on graminivorous animals (especially ruminants), whereas they prosper very little in the organism of the carnivorous kind, and have no effect whatever on dogs, therefore, the same predilection must be admitted for the bacilli of the diseases of mankind. Likewise the objection can be made that the virulence of some bacteria is considerably modified during the time which has passed since they were cultivated outside of the body of the animal, and that no less influence has been exercised by the aliment that served for the cultivation, and that to many other microbes the same thing occurs as happens to that of Davaine's septicæmia of rabbits, that can not be inoculated in guinea-pigs, and to that of Koch's *virus*, that, likewise, can not be inoculated in guinea-pigs. But, then, of what use are the pure cultivations? What serious demonstration can they furnish of the affinity between such a microbe and such a disease if the physico-chemical conditions of the soil are an indispensable element for the success, and if up to the present moment we absolutely know nothing, scientifically speaking, of the physico-chemical conditions which the blood of such or such an animal presents as a favorable field of cultivation for this or that microbe? This, as has already been said in the beginning, is the real scientific notion that explains the inoculation or the non-inoculation of pathogenetic microbes. And on this proposition I believe that there is not to-day a real scientist who has any illusions. These physico-chemical peculiarities of the blood, on account of its biological chemical conditions, will not be discovered for a long time to come. Inform yourselves of the nature of this problem (Raulin's liquid), and the culture of the *Aspergillus niger*, as likewise the present conditions of chemical hæmatology. What, then, is to be said of the receptive and non-receptive condition for the same pathogenetic inoculation in the same species of animals? The problem always becomes more inaccessible to our researches, and he that sustains the contrary can not speak in good faith without showing that he is no scientist. I do not see in all this the least shadow of the true experimental method. Sometimes we obtain by the inoculation of the supposed pathogenetic microbe a morbid effect, but it does not reproduce the disease. Another one produces no effect whatever, and then the reason which is invoked is the badness of the subject. And then, again, the same pathogenetic microbe is shown to be capable of producing two different diseases, as, for example, the *Diplococcus pneumonicus* and the *meningococcus* (*P. Foa* and *G. Bordoni Uffreduzzi*), which last result would completely destroy the pathogenetic electivity of the microbes, which ought to be one of the principal attributes of parasitical ætiology. But what, then, do they wish to demonstrate in this way? Experimental logic shows us that we can not always demonstrate that which we desire. This, in fact, is the reality of the thing for one who wishes to understand it. And all this without even mentioning that, in certain very serious diseases, it has been as yet impossible to discover a microbe (hydrophobia), and that there are many and many others in which the ætiological influence is so primitively chemical that it would be impossible to abdicate to the most ordinary good sense. We should have to suppress physiology! Let us take as an example a being who, in a perspiration, goes into a grotto, and who after a few hours is seized with a violent attack of rheumatism that continues two months or more. In this case, would you want me to search for the pathogenetic microbe without seeing at once that this profound functional cutaneous perturbation, which produced fever, was caused by a chemical mechanism to me unknown? Even when it is demonstrated that in the blood of this patient there existed microbes, I should still be of the opinion that they were developed from preexisting germs, and were one of the effects, and not the cause of the disease. This example can easily be multiplied in many serious diseases, due without doubt to grave functional disorders caused by errors of hygiene. The same is said of the pathogenetic influence which is attributed to some microbes, while in reality they alone are not capable of producing the disease attributed to them, for example, osteo-myelitis purulenta and acute endocarditis—invoking a demonstration that is the negation of the experimental method. It is known that when a pure cultivation of the *Staphylococcus aureus* is injected into the blood-vessels of an animal (for example, a rabbit), probably it will die, but it does not die from osteo-myelitis, mark you, but from the so-called general infection, and none of the localizations in the bony marrow are observed (Weichselbaum, "Klinische Zeit- und Streitfragen," Vienna, 1887). But if, before or soon after the injection, a bone of that animal is bruised or broken, then an osteo-myelitis purulenta is produced. I would frankly ask of any honest scientist if, with the experimental logic at hand, it is allowable to conclude or give to the world as a demonstrated fact that the *Staphylococcus aureus* is really the cause of this terrible disease in man, and also in the poor rabbit? But how can we admit the electivity of this pathogenetic microbe for the marrow of a normal bone if there is need of the intervening of another cause for illness, and how can we, then, logically infer that this microbe is the true cause of the osteo-myelitis that the physician observes in nature?

The same is said of ulcerative endocarditis, that is never produced when we inject into the circulating torrent of an animal those bacteria that are to-day considered as the cause of this disease, while on the contrary, if after the injection a valvular injury is produced, for example, offending mechanically by the use of a sterilized sound introduced into the carotids, the bacteria circulating in the blood fasten themselves on the valve and produce an endocarditis with all its consequences (see former citation). The character of this experiment is complicated; there are so many different casual elements which take part in it that I, for the honor of the experimental method, am chagrined to think that they can seriously be taken as a contribution to scientific pathology. In all these lightning studies and conclusions there is always a criminal infraction of the laws of the experimental method, because, as has been said above, it is impossible to follow the experimental method while ignoring one of the data of experience. Up to the present time it has been acknowleged that the experimental method was that which proceeded from the known to the unknown; instead of which in all the experiments of bacteriology up to this time there is always an x in the data of the experiments, and then the conclusion which is presumed to be accepted as a scientific truth is the daughter of a known factor more an x. This x, which is the secret of the whole position, consists in the diseased physico-chemical conditions of the blood or tissues of this or that animal. I understand that, in comparison to its immense difficulty, it is easier to suppress this idea or to support it; but then this in reality would be a most excellent experimental method *ad usum Delphini*, and will certainly never be the experimental method that was taught us by the grand masters or be the experimental method that was invoked as the Palladium of salvation that was to regenerate medicine. Where are you, glorious memories of Galileo, of Torricelli, of Newton, of Volta, of Spallanzani, who taught the world the sacred code of naturalistic philosophy? Rise, for pity's sake, from your tombs to illumine once again with a ray of genius the daring pioneers of the progress of medicine; echo at least once more among us the magic voice of Magendie, of Liebig, of Claude Bernard, of Whewell, of Chevreul, and of so many others that up to within a few years had by their example preserved the real traditions of the true experimental method uncontaminated by any other passion, even though the excusable one of leading to a quick discovery of a truth not yet ripe, and then only can true scientific medicine be inaugurated. Bacteriology made its entrance into pathology as a hasty means of indicating new ways for the cure of diseases, as I have before hinted. But the attempts made or proposed (more than absurd) would merit ridicule, if, unfortunately, their consequences were not so tragic. Good God, I can not conceive how in a general disease already developed it is possible to kill the microbes, admitting them to be the real cause, without killing the patient. Thus, to lessen this simple want of logic, the authors of these new methods have declared that they propose to kill the microbes in their primitive state, in the intestinal tube in cholera and in typhus, in the respiratory tree in tuberculosis, etc. In fact, they would do the same as is done in malignant pustule when at the right time the hot iron is applied. But the case is entirely different, as malignant pustule is seen as soon as it begins to manifest itself, and the expert surgeon recognizes it in time—that is to say, when the organism has not yet begun to participate in the infection; the patient is saved because, the point of departure being destroyed, all the cause of the disease is destroyed also. But in cholera, typhus, etc., this point of departure foreign to the organism is impossible to be seen in the required time, as in the former example, but the disease has already become general, and the destruction of the pathogenetic microbes at their point of entrance is no longer of any value. Let us not speak of tuberculosis, because, besides these most serious and peremptory objections, there is still another, and it is that the poor consumptive is doomed long before the bacillus can be observed in the expectoration, and the terrible condition of his general nutrition is certainly the most important part of the disease (notwithstanding what the pure parasitologists pretend), and precludes any hope of curing him, even if all the bacilli were to disappear as by enchantment from the respiratory tree. Nor no less absurd is the example which these anti-parasitical therapeutists invoke in their favor, citing the real miracles which Listerian surgery has wrought. It would seem to me almost childish to mention the difference which is apparent between an antiseptic preventive method and an antiseptic curative method. Without doubt it was due to the germ theory that Lister was inspired with the directing principle of that surgical revolution which will ever form a glorious halo to the English surgeon and one of the most precious conquests of the second half of the nineteenth century. But Lister—surrounding himself with those immense precautions of cleanliness, even scrupulousness, which constitute at least a good half of the importance of his method, and then purifying the medium in which are to be laid bare parts of the organism more or less profound—in reality did not propose any other idea than that of impeding the parasitic germs which beset us, so that they could not profit (as is their law of existence) by the open door that the surgeon of other times unconscientiously presented to them, without ever dreaming that, like invisible vultures, they had thrown themselves on their prey, producing the terrible and deadly effects that are known to all. In reality, therefore, in all this the organism remains perfectly foreign, and it is absurd to invoke the successes of Lister's antiseptic method to justify the internal medication that is directed against those germs which have already taken possession of the organism. The same is to be said of the appeal that is made to the splendid microbiotic application which has been consummated to fight and limit the development of epidemic diseases, because the good effects of the destruction of the microbes as long as they are out of the organism have nothing to do with the cure of general diseases already developed. But I do not wish to lose the occasion of observing that in reality the useful effects of the strongest disinfections still leave much to be desired, and that practically we are anything but near to possessing complete ideas about all the ways in which epidemic and contagious diseases are diffused. Therefore I do not hesitate, after a long clinical experience, to assert that even from this point of view bacteriology has exaggerated its presumptions.

Here, then, gentlemen, you have sketched out a guide to an experimental criticism of the true present state of bacteriology, and you see that its too hurried march does not merit the name of experimental progress. But up to the present I have not spoken to you of another colossal step which science to-day has made, and which demonstrates always more peremptorily that so many, many researches purely bacteriological, and so many improvised conclusions have done harm to the real scientific progress of pathology. To-day it is well known that it is not enough to explain the morbid symptoms of the different diseases, the purely mechanical action of the bacteria, nor the modification which they produce on the interorganic sphere only by the alimentation of which they have need. At present the more important and terrible influence of the microbes consists in the complicated chemical actions which they determine in the materials of the blood, with the production of eminently poisonous substances of different nature; and on the production of a greater or smaller number, and by their more or less rapid elimination, depends the loss or the victory of the organism. This experimental discovery without any doubt will one day be fruitful of happy curative applications, much more than any direct cure against the microbes, because the absolutely chemical search is the only one that can make us conceive serious hopes regarding the discovery of the intimate mechanism of diseases—that is, of their nature. In fact, it is undoubted that the living animal organism is a vast and most complicated laboratory of chemistry, still dark in the greater parts of its intimate mechanisms in its healthy state, and much more mysterious in a state of disease; and it is likewise true that the general effect of drugs is a chemical action that modifies in various ways the interorganic sphere deteriorated by disease. The intimate history of the most serious diseases, like that of the great remedies, was there to demonstrate even before these last experimental theories.

While we must presume that this new direction of medical studies, inaugurated so brilliantly by those pleiades of scientists, Nencki, Husemann, Gussenbauer, Gröbner, Kobert, Brieger, and others, will be more than fertile for the future of pathology and therapeutics, on the other hand it alone would be enough to bring up again a discussion about the conclusions of parasitical ætiology pure and simple, even if they were not prejudiced by the effect of the bad experimental method followed at present. With the idea of an innumerable series of poisonous alkaloids (of which up to the present we only know a few), it is easily understood that an exact notion of the physico-chemical conditions of the interorganic sphere in each disease is the indispensable condition for constructing on the one side pathogeny, and on the other side therapeutics. The morphology of the microbes is relegated in the background of the picture. That which principally interests us to know is the method of rendering these inseparable companions of our existence inoffensive, inasmuch as they can not disappear from creation; on the contrary, it is to be believed that they make a part of its harmony. Now, this preservation is purely physico-chemical. Or we must be contented to repeat with the hygienist of all times, *Keep yourselves strong and robust*, preserve the health of the functions, etc., because the stronger and more resisting will be your organism, and the more difficult will be the contracting of disease; or, if we wish to invoke the lights of science to be mathematically sure of what we should do, science must tell us plainly and openly what are precisely the physico-chemical conditions of the organism in which such and such a microbe will be able to grow and thrive, and produce its grave effects. Take, for example, pulmonary troubles. All ancients and moderns agree on the hereditary predisposition. Now, there is not a good clinician who has not observed that general characteristic decay of health which takes place in individuals as a prologue to tuberculosis. This is a decay of the so-called organic mixture, or, if you wish, of the change of material that is the prologue of pulmonary phthisis, and is precisely that which would allow the bacillus to reign in the lungs, and it is exactly for this that one hundred individuals can confront bronchitis over and over again, and mingle with consumptives, without ever becoming consumptive, while another poor unfortunate, who to all appearances is ruddy and strong, becomes consumptive after the first cold, because he has the misfortune to have phthisis in the blazon of his family. Now, frankly and in good faith, as honest scientists, what is the difference between these two types of organism—the difference of the interorganic sphere or field of cultivation, as they mean to say? Why does the bacillus of tuberculosis not thrive in one, whereas in the other it lives and prospers? This is the Gordian knot. Science says that the second organism offers a good field for the bacillus and the first does not. But this idea is an *ignotum* for an *ignotum*. That it is called organic predisposition or field of cultivation matters little to me; on the contrary, the word predisposition is to be preferred, as it indicates the pure and simple fact without prejudicing the explanation with a phrase that, while it adds nothing to the concrete and useful, scientifically speaking, insinuates into the mind an hypothesis not demonstrated. I desire to know from science in what consists precisely this field of cultivation; that is to say, what are its physical and chemical conditions? And only when I know this with precision can I propose to myself to modify the field; that is to say, to make a rational preventive cure for tuberculosis. Up to the present I know of no other cure than the good hygienic conditions of high country air, good alimentation, etc.; in fact, whatever betters the physiological powers and augments the vitality of the cells is the only means that can increase the resistance of the organism and give hope in the beginning of a cure. But, unfortunately, in the greater number of cases we do not succeed, nor can we invoke the experience of the laboratory, which demonstrates that animals who have been inoculated with the bacillus of tuberculosis can sometimes fight against the power of the deadly germ when the nutritive processes are excited to the apogee of their power. But I should like to ask in good faith of any pathologist or clinician what similarity can exist between the diminished capacity of resistance (an indispensable condition) of an animal that pines away by degrees in a laboratory, on account of the bad conditions of the air and light, etc., and the long and unknown preparation that spontaneously takes place in the organism that has an hereditary predisposition to tuberculosis, *even when it is put into the most favorable medium?* Physiologically and clinically speaking, between these two conditions there is an abyss; science sees it and measures it, and is silent to my question; because real science does not venture beyond its depth. Real science, unfortunately, knows that the phenomena of the same order seen in the laboratory obliges us to defer certain aspirations to an undetermined time. Science knows that the smallest traces of nitrate of silver in Raulin's liquid—traces that the same chemical analysis can with difficulty discover—are enough to impede the growth of the *Aspergillus niger;* and from this it is deducible that for the present, and perhaps for ever, the investigation of the physico-chemical conditions which make an organism a good field for the bacillus of tuberculosis, as opposed to a refractory organism, is interdicted to us. What I have said about the bacillus of tuberculosis can be repeated about all other diseases to which to-day is attributed a parasitic origin. What can rationally be said about the receptivity or non-receptivity of individuals toward cholera, small-pox, diphtheria, scarlet fever, etc.? It is easy to say that it is a question of a good or bad field of cultivation, but these words signify nothing and do not certainly constitute a scientific progress that bacteriology presumes to have realized. Nor is this all that peremptorily demonstrates the unfathomable abyss that surrounds the scientific knowledge of the predisposition of the different organisms, or fields of cultivation as they wish to call them. What is to be said of the immunity that a first attack of parasitic infection confers for a time more or less long, and sometimes for ever, against a second attack of the same disease? Going always from hypothesis to hypothesis, we have invoked the excitement of the field of cultivation, no matter how powerful are the conditions of the budding of these germs in an inter-organic sphere; incomprehensible as it may seem, these conditions can not reproduce themselves a second or a third time when a long period has elapsed after the cure of the first attack, and consequently the organism is completely restored and has absolutely returned to its normal state. What is the difference between a young man who, in his infancy, suffered from scarlet fever which has rendered him exempt, and another perfectly healthy man who, not having the disease, is likely to take it later in life? Absolute mystery! Please be kind enough to follow me still for a little longer. Take ten organisms all in a receptive condition for contracting scarlet fever, and which are taken with the infection as soon as an epidemic of scarlet fever begins. In one you will have the typical case that ends in recovery in eight days; in another the scarlet fever becomes ataxic at the third or fourth day, and the patient dies, as dies also another who has the fever in which the angina became diphtheritic; and finally a fourth, in whom, after the fever had run its course, develops into autopathic and adenopathic suppuration.

In this case we do not deal only with knowing in what consists the field of the healthy organism, favorable more or less to the cultivation of the microbe of scarlet fever; in this case the question is to determine the individual physico-chemical conditions by which the same infecting agent has radically modified the chemical productions of its fabrication, and from which, therefore, have been derived those fatal consequences that were unforeseeable on the first or second day of the disease. Let this be said only to humiliate those who pretend to proclaim bacteriology to be the philosopher's stone that is to enlighten the clinician, because so far as regards the pure pathologists of the laboratory I admire their innocence, and I excuse them, because they have never seen a patient taken with fulminant diphtheria or with hæmorrhagical small-pox, and for this it is permissible for them to believe in good faith that pathology can be regenerated by the cultivation of the bacilli obtained in the different broths, or on pieces of potato and other things.

If, then, you suppress the scientific idea—that is, the precise determination of the quality of this field of cultivation, an idea that, in fact, corresponds to the famous organic predisposition which the ancients and even the moderns admit—then good-by scientific medicine. We shall have to finish by resigning ourselves, as is allowable, to doubting pure and simple clinical observations. Nor need they come and tell me that we have made progress in this branch. Yes, it is true that we have acquired precious ideas, but they are very far from sufficient to construct the edifice, or to even serve as a useful foundation to therapeutics; thus they would have to construct with phantasy. Now, it is my opinion that a structure can not exist half real and half false, half experimental and half hypothetical, because then we should have to repeat with Victor Hugo, "*Je cherche un edifice et je trouve une ruine.*" I could have cited simpler examples referable only to external parasites of the organism. Take, for example, the experiments of Delafond and Bourguignon on the itch of domestic animals. Itch, as we know, is produced by an acarus nearly visible to the naked eye, that lives in the superficial stratum of the skin, and therefore it is not necessary to examine the morbid chemical changes of the inter-organic sphere, because the combat takes place on the surface of the body. Well, Delafond and Bourguignon have demonstrated that the acarus put on the skin of a well-fed and healthy sheep does not live, nor can it form colonies, but if, on the contrary, these sheep are first submitted to a bad alimentation and poorly stabled, the acarus easily finds a hold, and if the bad treatment is continued to these animals, the itch will extend considerably. If, at a given moment, the alimentation is bettered, together with the stabling and ventilation, then these simple hygienic agents, without any special cure against the acarus, are enough to make the itch disappear, and the animal recovers its primitive good health. Also the human subject presents examples of this kind of physiological therapeutics, due to the greater resistance. In what consists the physico-chemical change which has taken place in the organism of these animals, and in what way has this change been able to have such an effect on the skin that it would receive or refuse the parasite? To me it would appear that all, honestly, must recognize that to-day science can not even propose the solution of these problems. Think, then, what is to be said of the physico-chemical conditions of the inter-organic sphere, and tell me if it is allowable to speak of therapeutics based on bacteriology. In fact, all the most learned and conservative cultivators recognize the fact, and all hope in a better future, limiting themselves for the present to consoling us for the therapeutic sterility of their studies with giving the clearest explanations of the mechanism with which powerful remedies—such as mercury, quinine, etc.—work the curative miracles that all the world knows. It can be said that these systematic progressionists envy the past, and that to demonstrate to humanity that they also are doing something to enrich or perfect the cure of disease, imitate the fly who settles on the back of the ox and cries out, fully satisfied, *aramus*. Naturally their therapeutic explanation comes from their parasitical ideas, and therefore they teach youth that mercury cures syphilis, and that the salts of quinine cure malarial infection by killing the microbes which are the respective causes of these two pathological conditions.

Not wishing to further tax your patience, a few words will suffice me to demonstrate how the systematic domination of an idea can blind one, even to the point of presuming to turn to its profit assured empirical facts about which there can be no discussion. The parasitical experiences which they are always invoking are those which come from the laboratory, and which have always the fault of not taking into account the fact that in a living organism the factors which are encountered are very different from those which are found *in vitro*. Thus, for example, it is known that corrosive sublimate is one of the strongest parasite-killers, and it is used with great success to destroy the germs of infection under the form of washes, injections, etc., in the proportion of $\frac{1}{4000}$ to $\frac{1}{1000}$. This is a well-established fact, but it can not be invoked to explain the mechanism of the antisyphilitic virtues of mercurials, for two most simple and peremptory reasons, allowing as demonstrated (which it is not) that constitutional syphilis is a general disease determined by a special microbe (and I pray you to note that this first hypothesis, which is not yet demonstrated, would be enough to paralyze all future reasoning). But the hypothesis *crescit eundo*. If the salt of mercury were to circulate in an organism under the form of the bichloride, it would still be easy to delude one's self. But it is the most elementary idea of experimental pharmacy that the salts of mercury are absorbed under the form of an albuminate, and that in contact with the excess of albumin, or perhaps with the chloride of sodium of the blood and of the tissues, the compound albumin-mercurial is dissolved, and does its work. Now the solution of albuminate of mercury has not the antiseptic virtues of the sublimate, and this for a very simple reason; bichloride of mercury exercises its powerful antiseptic action because it seeks to combine with the albuminous materials of the pathogenetic germs; it (Hayem) could not have the same action after having already combined with great excesses of albumin. The microbes of syphilis might continue to live on quietly. Still there are some who, not willing to give up, prefer to say that, after all, we do not know what composition or decomposition the salts of mercury are subjected to in the blood; denying, moreover, that which is proved in experimental pharmacy, and this only for the purpose of being able to start from the experience of a laboratory to arrive at an x for the pleasure of sustaining an hypothesis. But there are other, and not less peremptory, reasons demonstrating the error. It is admitted, for example, that corrosive sublimate, notwithstanding its transformations, kills the microbes of syphilis used even at minimum dilution of $\frac{1}{5000}$; one can not go farther. It is likewise admitted, which is erroneous, that the microbes of constitutional syphilis only circulate in the blood, and this makes one of the most simple calculations necessary of the proportions of sublimate necessary to sterilize them all. The quantity of blood which circulates in a medium organism is calculated at five kilogrammes. According to the parasiticals, the results *in vitro*, there would therefore be need that not less than one gramme of corrosive sublimate should be present and circulating at the same moment in the blood-torrent. Renouncing the serious consideration that a gramme of corrosive sublimate present and circulating in the blood would cause fatal acute mercurialism, I will limit myself to observing that practice demonstrates every day that from sixty to eighty hypodermic injections are enough at the most to cure the most serious form of syphilis, using half a centigramme of bichloride of mercury for each injection, which amounts to thirty or forty centigrammes of corrosive sublimate in all—that is to say, the fifth or sixth part of that proportion, even the minimum, that, according to the laboratory, would be necessary! And if to this you will add that after the third or fourth hypodermic injection it can be demonstrated with certainty that the elimination of the mercury has already begun by means of the urine, it is an indisputable fact that the combined dose of albumin-mercurial circulating at the same moment is by far inferior to the entire dose of corrosive sublimate used in the whole cure. Nor can I help asking of these blinded followers of this singular experimental logic, why they have never—they who are so sure that corrosive sublimate and all the other mercurials cure syphilis by killing its microbes—proclaimed that they have at last found the remedy for all chronic diseases that, according to their wisdom, are due exclusively to the existence of some kind of a bacillus or microbe? Why should not the use of sublimate, according to the same doctrine, cure pulmonary tuberculosis? There is no need that I recall here the deplorable effects of these unheard-of and audacious curatives. The same reasoning can be repeated for the mechanism by which the salts of quinine cure malarial infection, etc.

The final conclusion is, therefore, this, gentlemen, that, going on with the everlasting guide of the experimental method, the present progress of pathology and of therepeutics founded on microscopic studies, we must, unfortunately, convince ourselves that, under the most seducing appearance of rational and experimental progress, they are nothing else than hypotheses and systematic tendencies. It is, therefore, urgently to be hoped that experimental biology may once again recover that scientific rigor that is found consecrated in the immortal codes which our forefathers transmitted to us and by which only it is possible to prepare, little by little, the solid materials for the colossal edifice of scientific medicine. We shall be all the more largely recompensed for this immense work, inasmuch as it will be disinterested, because the edifice is so grand that, none of us being able to delude ourselves with the hope of seeing it finished, no one can be accused of ardently proclaiming progress for his own ends. We will work for the triumphs of future generations.

But do not let it be thought from this, gentlemen, that medicine is to continue in the way of traditional empiricism. This would be an easy accusation for those to make who in bad faith pretend not to understand the real sense of my discourse, and who, not wishing to conform to the rigor of the experimental method, prefer to have only progress on the lips and *ex cathedra*, while in practice they do not hesitate to become more empirical than their forefathers, with a humiliating polypharmacy for science and with a continual up and down of new remedies, first glorified as a miracle, and then forgotten without pity. No, gentlemen, empiricism is dead for ever in every order of things. Modern civilization, conquering by its true scientific methods inorganic nature and organic nature, finds itself in conditions entirely new and unknown to old civilizations. The history of ancient peoples can not always be logically invoked to calculate the destinies of modern people. Humanity understands to-day that its aim is no longer passive contemplation, but progress and action, and it is for this that the experimental method, passing from the physicochemical sciences and physiology, is extending its influence over the historical sciences and over moral sciences. Humanity understands that it is not enough to remain an inactive spectator of good and bad, enjoying the one and cursing against the other; no, it searches for the cause it wishes to explain, and wishes to act on them, thus forcing itself to dominate good and evil; to develop the one and to battle with the other—to eradicate and destroy it. And it is you yourselves, Americans—great people of the United States—that are entitled to be admired by the whole universe as having applied these great principles of the experimental method to your political and social constitution. Those who, preferring unbridled license to healthy liberty, call you retrogrades, can not be anything but rascals, that for their personal advantages sacrifice the limits of the just and honest, and aim at the triumph of disorder. Therefore, he who confounds empiricism with the just measure of the evolution of progress either lies or does not know what he says. The experimental method teaches us that its first step is the rigorous observation of facts, that is, the rigorous determination of this or that phenomenon. When this is well established, comes the research of the Why? which is the second step of the experimental method. Empiricism represents blind and confused observation, and, if the scientific physician begins by investigating the why of a phenomenon that is badly determined in his simple observation, then in reality the experimental method is wanting a base. This is the sense in which I say that the first duty of modern scientific or experimental medicine is that of transforming the empirical notion of facts into a scientific idea. The great treasures of clinical observations transmitted to us by tradition represent indisputably the everlasting basis of medicine. To-day the duty of the physician who wishes to be the real pioneer of scientific medicine is that of applying all the great truths of the past to the bright lamp of physics, of chemistry, of physiology, and of pathological anatomy. This illumination has already begun, and here is the first transformation of the empirical period into the scientific period. At the same time, and accordingly as each clinical fact has been subjected to exact and rigorous tests, with so many new means of investigation comes the second period of research—that is, the research of the *why*, or the study of the conditions of existence of different pathological and therapeutical phenomena; and it is thus that this slow evolution of experimental progress begins that can, only in time unknown, conduct to the definitive construction of scientific medicine. But, if in this long journey the right path of experimental medicine is lost, the same thing will take place that has occurred for the last half century—that is, while the auxiliary science of medicine is throwing bright light on the many mysterious problems of pathology, physicians are allowing themselves to be conquered by impatience, and prefer to build the progress of therapeutics on hypotheses rather than on rigorous experience, and thus are always going farther away from the definite scientific solution.

This, my oldest, my dearest, and most ardent vow for the future of medicine in general, and, above all, for *Italian* medicine, I am more than happy to repeat here among you all, worthy sons of the freest land, because, gentlemen, liberty and patriotism are the natural and indispensable allies of the progress of science, and one of the fundamental conditions for attaining the experimental method is the nationality of thought, or the abolition of all kinds of intellectual slavery, which is a hundred times more humiliating and damaging than the slavery of chains. It is true that science has no fatherland and much less confined boundaries, but it becomes universal only when it is already constituted; but while it finds itself in the state of evolution—that is, in a state of truth not yet demonstrated—each people has special dispositions and special ways of being and hearing, and for this each people or nation gives a special characteristic to its studies. To those people or nations that, having glorious traditions and therefore undeniable duties, prefer to imitate rather than to create, I would recall the words of Virchow, in the congress of German naturalists at Hannover in 1866, which were that "science is unproductive when it has not a national character."

And that Germany herself, with Oken at its head, cries to those who make their scientific progress consist in imitating, "Imitate no one if you wish your sciences to revive and regain their ancient greatness." In no corner of the world can this voice be so powerfully echoed for the experimental method as on these shores of great modern liberty. Long live the alliance in medicine of the experimental method and scientific independence, an alliance which to conquer does not need bayonets, cannon, nor victims.

Original Communications.

ON THE ADVANTAGES OF
A COMPOUND SALICYLATED PLASTER
IN DERMATOLOGICAL AND SURGICAL PRACTICE.

By HERMANN G. KLOTZ, M. D.

The value of salicylic acid in the treatment of skin diseases, particularly of eczema in its different forms, has been so generally recognized by dermatologists that it does not seem necessary to add any further testimony bearing on this question. Among the different means of applying the same, the plaster-mulls of Unna and similar preparations have been acknowledged to possess many advantages peculiar to themselves; the high price, however, has prevented their general introduction, particularly into dispensary practice, where they probably would be the most welcome. Comparatively little has been said or written about the application of salicylic acid in the form of the salicylated soap-plaster, which, I believe, was first recommended by Professor Joseph Pick, of Prague, in a paper, "Ueber den Arzneigelatinverband und die locale Behandlung des Eczems," published in 1883 in the "Prager med. Wochenschrift," viii, pp. 53–55. After making extensive use of such a plaster during the last four years in private practice, as well as in my dispensary and hospital service, and having met with very satisfactory results, I take leave to call the attention of the profession to its advantages.

Professor Pick (*l. c.*) but briefly mentions that he employed, instead of the plaster-mulls, a five-per-cent., ten-per-cent., or twenty-per-cent. salicylated soap-plaster, which could easily be prepared by any apothecary. I have not been able to ascertain whether the soap-plaster of the Austrian Pharmaeopœia differs in its composition from that of other pharmacopœias. Usually it is composed of twelve parts of the simple lead or diachylon plaster, two parts of wax, and one part of Castile soap. If you prescribe this plaster, with even five per cent. of salicylic acid, the patient will receive a mass of such hardness that he will not be able to spread it at all, or, if he really succeeds, it will be so dry and brittle that it will not stick, nor accommodate itself to the surface of the part of the body to which it is to be applied. The addition of some substance was, therefore, required to render the mass softer and more pliable; vaseline, on account of its resistance to decomposition, seemed the most appropriate. A further change was considered advisable regarding the soap contained in the plaster. Although a pure soda soap, without any free alkali, acts but mildly on the healthy skin, and although the quantity contained in the soap-plaster is not very great, its macerating and softening influence on parts where the skin is more or less devoid of its epidermal covering might prove harmful during continuous application. I therefore preferred to reduce the quantity of soap by using equal parts of soap-plaster and of the simple diachylon plaster, to which Hebra's diachylon ointment owes its efficacy. After these theoretical considerations, I sought the practical advice of the experienced apothecary of the German Dispensary, Mr. A. Rutenik, in regard to the proportion of vaseline needed to furnish a useful plaster. After several experiments, Mr. Rutenik found the following formula to give the best mass:

℞ Emplastri diachyli simplic., Emplastri saponati,	} ..āā 40 parts.
Petrolati..................	... 15 "
Acid. salicylic.	5 "

Several years' experience has proved the value of this formula, which, about two years ago, was added to the list of remedies regularly prescribed in the German Hospital and Dispensary of New York. For use in certain cases, a ten-per-cent. plaster of the same composition has been prepared. This plaster, to which I propose to give the name of the compound salicylic plaster—emplastrum salicylicum compositum—is of a yellowish-gray color, has no particular smell, and, while fully retaining the qualities of a plaster, is soft enough to be spread readily on linen or muslin by any one not entirely inexperienced in this work. In spreading plasters, patients often commit the error of trying to prepare a small piece of cloth, just large enough to cover the diseased part, instead of taking a large piece at once, which allows the application of greater force and of wider excursions of the hand, and cutting it up into smaller pieces afterward to suit the shape and size of the parts to be covered. It therefore often happens that they complain at first of the difficulties of spreading; as a rule, however, they soon gain in practice, and exhibit well-prepared plasters. The adhesive qualities of the compound salicylic plaster are not very great, and this is indeed its most serious drawback. On some portions of the body, particularly on those covered by the stockings, or other closely fitting garments, it will not require any further means to hold it in its place, but generally some cover, such as a glove or mitten, a roller bandage of muslin, a piece of cloth, a pair of swimming tights, or a strip of adhesive plaster, will be required to secure it in its position. Hereby its applicability is restricted to certain regions of the body—a disadvantage which it has in common with Unna's plaster-mulls and similar preparations, with the exception of collodium, traumaticin, and, perhaps, the gelatins; but in my experience the latter do not furnish so absolutely dry a surface as has been stated, certainly in hot weather. One great advantage of the plaster is its low price—a point of particular importance in public institutions. Mr. Rutenik has been kind enough to carefully compute the cost of the five-per-cent. salicylic plaster, as follows: If prepared from the ready-made plasters, one pound costs about 42 cents; if he originally mixes the plasters himself, the cost amounts to only 20 cents a pound. As one ounce will spread over about one square foot, it certainly furnishes a cheap remedy. In private practice my experience was at first not so satisfactory, as on the identical prescriptions different patients received widely different substances, sometimes too hard, sometimes too soft, at other times extremely irritating. I can not account for the difference, unless the preparation of smaller quantities is attended by particular difficulties. For several years Messrs. Eimer & Amend, of Eighteenth Street and Third Avenue, have prepared the plaster in large quantities, and have kept it ready for sale in excellent quality.

The very same reflections that led Professor Pick to the adoption of medicated gelatins in general, and particularly of the salicylated gelatin, induced me to take up the salicylated soap-plaster rejected by him. As the paper in question was published in a periodical of not very wide circulation, and as it seems to me to be of great importance on account of the therapeutic principles proclaimed therein, I feel justified in citing part of it:

> "The point in question," Professor Pick says, "was to find a substitute for the very efficient but very disagreeable and unpleasant tar treatment. For this purpose efforts have been made to isolate the active principle of tar and to use it separated from the other components. As soon as the different products of the distillation of tar were obtained, they were applied to take the place of tar; but neither resineon, nor resinein, nor carbolic acid, nor others were able to produce identical effects with tar. Even β-naphthol, which Kaposi but recently believed to possess all the advantages of tar without its disadvantages, can not be considered a successful rival of tar. Upon inquiry to which peculiarities tar and its preparations owe their excellent effects on the diseased skin, particularly in eczema, it became apparent that, first, they were excellent antiseptics; and, secondly, that by the drying of their resinous components they formed a protecting cover, under which the regeneration of the epidermis could go on without molestation.
>
> "A careful study of the development and progress of eczema will show that the very indications for its treatment are the prevention of septic infection and the protection of the diseased surface from mechanical and chemical injuries until a sufficiently strong epidermis has been formed. Considering the single stages in the development of eczema, we find that really the progressive character of the eczematous process, defined by the smaller or greater exudation on the surface, is limited to the conditions of eczema papulatum and vesiculosum, as well as to eczema madidans, which differs only in the removal of the covering of the vesicles; but that suppuration, the so-called stage of eczema impetiginosum, makes its appearance only when local septic influences complicate the moist stage. Wherever such an event does not take place, the vesicular or moist eczema passes immediately into the squamous stage."

This means that suppuration can and ought to be prevented or stopped, when already developed, by antiseptic measures. The compound salicylic plaster represents, indeed, a very simple form of antiseptic dressing, the place of which it can take under certain circumstances, as I shall show later on. The salicylic acid, being soluble but slowly and in limited quantities, and being not evaporable, retains the antiseptic qualities of the plaster for a considerable period. The mass of the plaster itself forms a non-irritating cover for the surface of the diseased skin, not only protecting it from injuries, but offering several other advantages. Unlike ointments, it prevents effectively the formation of crusts or scales on any moist surface by preventing the evaporation of the secretions, while on a dry or scaly skin it acts similarly to a rubber bandage or cover; it retains the evaporation of the product of the perspiratio insensibilis, and thus forms a kind of permanent bath. It is superior, however, to the rubber itself on account of the aseptic condition of this bath, while under the former, decomposition of the secretions and resorption of septic fluids can easily take place. I have twice observed the formation of a malignant phlegmon under the use of rubber gloves in cases of eczema where I firmly believe that the septic resorption had been favored, or rather forced, by the rubber cover. The salicylic plaster keeps the dry and infiltrated skin softer and more pliable, thus preventing its cracking and tearing, so often the most painful and annoying feature of some skin diseases; and I know of no other remedy under which rhagades, once formed, lose their soreness and heal in so remarkably short a time, the formation or reformation of the hard inelastic edges being entirely prevented.

The compound salicylic plaster owes a further beneficial quality to the effect of the salicylic acid itself on the removal of the thickened epidermal cover, and the replacement of the same by a new healthy epidermis. While it requires a stronger (at least a 10-per-cent.) salicylated plaster to effect such an elimination of thickened epidermis within a short time and in as conspicuous a manner, the milder 5-per-cent. plaster produces a slower and less distinct transformation.

All these advantages the compound salicylic plaster has in common with Unna's plaster-mulls and similar preparations. I have mentioned them here to show that the homemade article is inferior to the ready-made, more pretentious articles only in appearance. Some of my private patients who tried both were decidedly in favor of the plaster. As to dispensary patients, I have been gratified to observe that they apply hardly any other external application so faithfully as the plaster, and quite often ask voluntarily for the renewal of the same in preference to other remedies. I do not know whether—the greater number of our patients being of German birth or extraction—this fondness for plasters of any kind is peculiar to our race; I believe, however, that this preference, wherever it exists, is founded on the experience that the plasters do not require frequent renewals, and, being applied mornings and evenings at the utmost, allow the patients to attend to their day's work without interruption.

From what has been stated heretofore, it has become evident already that the compound salicylic plaster finds its widest application in eczema. To avoid any misunderstanding, I want to state distinctly that, while quite a number of cases of eczema heal under external treatment alone, I do not believe that the plaster renders general and internal treatment unnecessary in other instances. Except the most acute stages of eczema, which probably always require the application of lotions or dusting powders, there is hardly a form of that disease in which the compound salicylic plaster is not borne well, and in the greater number of cases it proves beneficial. There are individual cases where for some reason or other the objective and subjective symptoms of inflammation increase under the plaster; generally, however, the acuteness of the process is not an absolute counter-indication. Recent vesicular and pustular eruptions about the hands and feet heal readily under the plaster as well as moist eczema of some duration; it is advisable to cleanse the moist surface well with water or a solution of boric acid before making the application. The discharge of serous fluid is not diminished at first; only with the gradually progressing formation of new epidermis will the secretion decrease and finally cease. The beneficial effects of the compound salicylic plaster are not limited, however, to the moist stages; under its protection better than under other treatment the newly formed epidermal layer gains in strength and smoothness, while the formation of scales and crusts is prevented. The infiltration and thickening of the more chronic forms of eczema yield very often to the softening influences of the plaster, while in some inveterate cases it will require the stronger application of tar, either pure or as an ointment or in the shape of the alcoholic tincture. As has been mentioned already, rhagades are particularly amenable to the healing influences of the plaster; often one night's application will be sufficient to cure cracks on the fingers, the pain and discomfort from which had for weeks been harassing their unfortunate victims. Naturally the usefulness of the plaster greatly depends on the localization of the eczematous affection. While the face, neck and shoulders, and circumscribed patches on the chest and trunk, allow of its application, while the scrotum and penis can be conveniently protected, the extremities furnish by far the most favorable field for the propitious influences of the plaster. Applied to the hand, and particularly to the fingers, in small straps and covered by a glove or mitten, it allows a moderate use of the member, sometimes sufficient to enable the patients to work; the arms can remain covered all day without change; but more evident still is the advantage of its application to the lower extremities, the most frequent seat of eczema and its consequences among the laboring classes. The plaster and a muslin bandage often enable the patients, who had before been forced into idleness for weeks or months under other applications, to be around and to attend to their business without much pain or inconvenience; and it is particularly among those affected with eczema, and very often ulcers of the leg, that the plaster has been praised and asked for when a relapse of the old evil brought them back to the dispensary after months or years.

Chronic ulcers of the leg, so closely allied to eczema, indeed present a no less meritorious object for the services of the compound salicylic plaster. If small and shallow, they allow direct application of the same after a thorough cleansing and disinfecting; the deeper and more inveterate ones, however, often require previous reduction of the inflammatory conditions by rest and lotions or stimulation of the indolent surface by caustics, or astringents, or operative procedures. But once reduced to a granulating surface and the edges lowered to the same, I know of no better dressing for these ulcers.

Applied after cleansing and disinfecting by a solution of boric acid or the combined boric and salicylic acids, or by sublimate not over two per mille, and supplemented by one or several layers of absorbent or medicated cotton and a muslin or gauze bandage, we have a complete antiseptic dressing that may remain unchanged for five or seven days or longer, according to the copiousness of secretion. It is often astonishing to notice the rapid spreading of the epidermal edges over the granulating surface, and the fast reduction of the latter. Not less conspicuous is this effect if such a dressing is applied to skin-graftings, made according to Reverdin's method, after they have once taken root on the granulations; under its protection they rapidly increase in circumference. The final result in all such cases will be a much smoother and firmer scar than after dressing with ointments, adhesive plaster, or the rubber bandage. Naturally the compound salicylic plaster may be applied with the same good results to any granulating wound; whether the same originally resulted from an operation or from a burn, from some severe form of dermatitis, the effects of caustics, etc., particularly when under iodoform, sublimate, or other dressings, no more progress toward healing is made. Syphilitic ulcers, especially those of the more superficial type, resulting from pustular syphilides, often do much better under the salicylic than under the mercurial plaster.

The same good results will be gained in such cases where the loss of substance is limited to the epidermis, or to the horny layers of the same, leaving exposed the rete Malpighii, the condition of the skin after the formation of blebs or pustules and the removal of their cuticle in erythematous and impetiginous eruptions in their different forms, herpes and pemphigus. In a very severe case of pemphigus, now under my observation, the plaster has proved to be a particularly useful and convenient dressing for very extensive raw surfaces on the back and the extremities; it greatly relieved the suffering of the patient and favored speedy reproduction of epidermis.

I have not much experience in regard to the effects of the compound salicylic plaster in psoriasis and lichen, except as to the formation of cracks and rhagades in the former, but I have no doubt it would do good service in both diseases against infiltration of the cutis. In cases of carbuncles and furuncles I have tried it quite frequently; while I have found it useful and convenient as a dressing after the boils have been opened and the core or the diseased tissue has been removed, I have not observed in the earlier stages the same brilliant effects which L. Heitzmann has quite recently attributed to a salicylic plaster of a nearly identical composition with the plaster of the pharmacopœia of the German Dispensary.

As I expect to report more fully in another paper on my experience in cases of lupus, lupus erythematosus, and others, which closely resemble the tuberculosis verrucosa cutis as described by Riehl and Paltauf, I want to mention but briefly that I have applied the 10-per-cent. compound salicylic plaster with excellent results for the last three years; slowly indeed, but without any pain or inconvenience to the patients, even extensive affections have been gradually reduced to smooth and but little defacing scars.

I hope I have avoided being so enthusiastic in my report on the advantages of the compound salicylated plaster as to impair its credibility with those who, from frequent deceptions and disappointments, have become used to accept such reports with so much greater caution and suspicion the more glowing they are. My own experience, extending over several years, and the confirmation of the same by several of my associates in the German Dispensary, make me feel confident that those who will give the plaster a fair trial, particularly those engaged in dispensary work, will not entirely discard it.

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GLANDULAR AND CONNECTIVE-TISSUE HYPERTROPHIES OF THE LATERAL WALLS OF THE PHARYNX.*

By CLARENCE C. RICE, M. D.

Pathological conditions of this portion of the upper respiratory tract—the lateral walls of the pharynx—have not attracted much attention, and the little that is to be said here in regard to such lesions is stated as much because of its pathological interest as of its clinical importance. Clinically, we are not in the habit of separating by any characteristic symptoms inflammatory processes of the sides of the pharynx from coincident conditions occurring about the pillars of the palate and the tonsils. If it be an acute inflammation, the symptoms of painful deglutition, heat, and general discomfort about the back of the mouth, are satisfactorily accounted for by evidences of tonsilar or palatal inflammation, and the sides of the pharynx are not critically examined. If the process is a chronic one, the symptoms of a general naso-pharyngeal catarrh are explained by manifest pathological conditions in the nasal cavities and "post-nasal pharynx" (which, by the way, is a far better term for this part than the "vault of the pharynx" or the "post-nasal space"). And, again, whatever abnormal conditions may be noticed upon the sides of the pharynx, they are not considered especially significant as forming any very considerable part of the pathology of upper respiratory catarrhal inflammation.

From a therapeutic standpoint we must recognize lesions that commonly appear on the lateral walls of the pharynx, for they demand correction at the hands of the operator during the treatment of a naso-pharyngeal catarrh as much as pathological conditions higher up in the upper pharynx or nose. Luschka and Meyer, of Copenhagen, did valuable work in studying and describing the glandular structure of the vault of the pharynx, and later investigators have done much toward making clear the pathology of post-nasal catarrh by demonstrating the similarity in structure of the glandular tissue at the vault of the pharynx with that of the faucial tonsils. That this identity is true beyond all peradventure can be easily proved by microscopical examination. I have had a number of specimens taken from the pharyngeal and from the faucial tonsils examined by expert microscopists, and it has been shown that in children the two structures are almost precisely the same. In adults the faucial tonsils, on account of their exposed position and the consequent frequent inflammatory attacks to which they are subjected, take on hyperplastic changes, and an abundant connective-tissue stroma is found here which does not show itself in the adenoid layer at the vault. It is of more than histological interest that these structures—the one in the upper and the other in the lower pharynx—have been found to be alike, for not only is it conclusive proof of the intimate anatomical relation between the parts, but it is found that they are affected frequently at the same time by the same inflammatory process, thus demonstrating the close relation between glandular inflammations of the post-nasal pharynx and of the oro-pharynx. This is a very important point clinically, because it places diseases of the middle pharynx where they properly belong—in the general class of catarrhal inflammations of the respiratory and not of the alimentary tract.

I have noticed several times a pathological condition which I dare say is familiar to you all, but one which I am surprised to find is rarely described in text-books or mentioned in general medical literature, and that is a complete tissue connection, by reason of hypertrophy, between the enlarged faucial and pharyngeal tonsils. The former have gradually extended upward and the latter downward from the vault, until they have met. I am not speaking now of those raised folds formed of combined connective tissue and glandular hypertrophy which are frequently to be seen running up and down parallel with the posterior pharyngeal pillar. I believe that the oral and the pharyngeal tonsils become continuous in this manner: first the faucial tonsil develops backward, and so grows into, and passes behind, the posterior pillar. The simple follicular glands, of which anatomists tell us there is a linear grouping at this location—that is, on the side o the pharynx—have also undergone a hypertrophic change, and have pushed themselves upward from the surface until they have met the faucial tonsil, and together they have formed a comb-like spur or excrescence, and have extended upward at the same level as the tonsil, until, in one mass, they have disappeared behind the soft palate, where they can be traced into the substance of Luschka's tonsil. If this is the manner in which the follicular structure at the sides of the pharynx takes part in general glandular enlargement above and below, it not only adds additional strong proof of the identity of the tissue of the first, second, and third tonsils, but it apparently demonstrates that these so-called tonsils are, after all, only a globular collection of the same simple follicles which have a linear arrangement up and down the lateral walls of the pharynx, and that these simple lateral follicles are merged into the hypertrophied faucial and pharyngeal tonsils without any line of demarkation to indicate change of tissue structure.

We should say, then, that chronic follicular pharyngitis of the lateral walls of the pharynx is the commencement of this pathological process, and that it may and sometimes does progress until this follicular and hyperplastic enlargement forms the connecting link between the true upper and lower tonsils. This is the first form of the glandular hypertrophy which is referred to in the title of this paper—a pathological condition which I do not find described fully anywhere, but alluded to in "von Ziemssen" by Wendt,* who speaks of the "combs of the tonsil" extending downward from the vault; but he does not describe the filling in of the gap between the upper and lower tonsils by this glandular enlargement of the lateral walls of the pharynx.

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* Read before the American Laryngological Association at its ninth annual congress.

Other writers say that adenoid hypertrophy of the vault sometimes extends almost down to the soft palate, and I mention Sajous as one.†

This process, then, seems to be nothing more than an unusual degree of that pathological condition which we usually find in children who are suffering from chronic catarrhal inflammation of the nose and pharynx, an excessive glandular development, and a hypertrophy of the mucous follicles of the side of the pharynx, together with faucial and pharyngeal tonsilar enlargement. I have not noticed this condition in very young children, but in young adults from twelve to eighteen years of age, and, I presume, for the reason that it requires this number of years for the lateral glandular tissue to reach this very unusual degree of hypertrophy. The entire line of glandular tissue, including the pharyngeal tonsils above and the faucial tonsils below, seems to be nourished by the same blood-supply, for it has been my experience that, as soon as any portion of the chain was destroyed by knife or cautery, there was a strong tendency to atrophy on the part of the remaining glandular structure, and that, too, without surgical interference. I have seen the entire mass on the lateral wall of the pharynx disappear in a month after the tonsils above and below had been removed.

We now come to a second very interesting pathological condition of the lateral walls of the pharynx—a condition which is described by Schmidt ‡ under the name of "pharyngitis lateralis," and one which he regards as a localization of "pharyngitis granulosa," or, as it should more properly be called, "chronic follicular pharyngitis." Schmidt quotes Störk # as the sole author (Billroth, "Handbuch d. Chirurg.," vol. iii, pt. 1, 1880) who has appreciated the fact that this modification of pharyngitis folliculosa at times occasions much discomfort in consequence of hyperæsthesia of the corresponding part. We find that Störk describes the pathological condition of pharyngitis lateralis, but only as a modification of general chronic follicular pharyngitis, and he adds that these lateral hypertrophies are sometimes the seat of extreme hyperæsthesia, driving physician and patient to despair.

Michel ‖ says, in the case of patients laboring under pharyngeal difficulties, and who had been judged hypochondriacs because of the apparently normal condition of the post-pharyngeal wall that he found circumscribed inflammatory thickening of the lateral walls of the pharynx.

Minute anatomical descriptions of the lateral walls of the pharynx have been given by Luschka,* and later by Zaufal,† who state that this region may be the seat of pathological conditions; but these authors do not, as does Schmidt, lay great stress upon the fact that this localization of a follicular pharyngitis oftentimes explains distressing symptoms the cause of which is not easily apparent.

The most satisfactory description of so-called "lateral pharyngitis" we find given by Schech ‡ in his text-book. This latter author, with Zaufal, states that the fold called the "plica salpingo-pharyngea" is the particular portion of the lateral wall of the pharynx which is involved in "pharyngitis lateralis." This salpingo-pharyngeal fold commences at the posterior end of the cartilaginous orifice of the Eustachian tube, and extends downward parallel to the lateral wall of the naso-pharynx and the posterior pharyngeal pillar. When hypertrophied, it can be traced downward as far as the attachment of the palato-pharyngeus muscle, or it becomes lost in normal mucous membrane at the level of the tip of the epiglottis.

The pathological change indicative of localized inflammation of the lateral pharyngeal walls we have all seen, and we are familiar with the symptomatology of this condition. There are two inflammatory processes which may occur here which perhaps it is best not to confound; the one is the acute inflammation of the simple follicles of the pharyngeal wall, just behind the posterior pillar, occurring with or following a disease of precisely the same nature—acute follicular tonsillitis, the characteristic white-mouthed follicles appearing primarily, sometimes on the tonsil and sometimes on the side of the pharynx. They also disappear together, and a narrow superficial red line of raised tissue, running up the side of the pharynx, is all that remains to mark the location of frequent attacks of acute follicular inflammation.

The second pathological process is a localized hyperplastic inflammation of the mucous and submucous structures at this point, or, according to Schmidt and Schech, a hyperplastic enlargement of the salpingo-pharyngeal fold. The pathological change usually commences in the simple follicles of this region, as a result of frequent attacks of follicular inflammation of a mild grade, aggravated, as Dr. Harrison Allen suggests, by the constant physiological activity of these parts. Chronic congestion and consequent hyperplastic infiltration soon follow, and eventually the enlarged follicles are encroached upon and their integrity destroyed by the surrounding connective tissue. The two processes can not clinically be separated, and the raised adventitious fold or ridge on the side of the pharynx is composed of both glandular and connective-tissue elements. The elevation of the mucous membrane may be unilateral or bilateral; if found on both sides, they are rarely sym-

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* Wendt, "von Ziemssen," vol. vii, p. 39.

† Sajous, "Diseases of the Nose and Throat," p. 231.

‡ Schmidt, "Deut. Archiv für klin. Med.," 1880, vol. xxviii, p. 421.

"Störk, "Klinik der Krankheiten des Rachens," 1876, p. 114.

‖ Michel, "Zur Behandlung der Krankheiten d. Mund-Rachenhöle und des Kehlkopfes," Leipsic, 1880.

* Luschka, "Der Schlundkopf des Menschen," pp. 16 and 33.

† Zaufal, "Die Plica Salpingo-pharyngea," "Archiv f. Ohrenheilkunde," vol. xv, p. 97.

‡ Schech, "Diseases of the Mouth," etc., p. 114.

metrical. They are sometimes broad and thin, and at other times as thick as a lead-pencil. Sometimes they are so large as to prevent the approximation of the soft palate with the posterior pharyngeal wall. And Schech explains the symptom of pain in many of these cases by the fact that this hypertrophied pharyngeal band, which passes over the superior constrictor muscle, is, by the contraction of this muscle, wedged between it and the posterior surface of the soft palate, thus exciting the sensitive and irritable pharyngeal nerves. These bands are easily overlooked, situated as they are behind the posterior pillars, and are only brought prominently into view by contraction of these pillars. They may be hardly distinguishable from the palato-pharyngeus muscle, or sharply separated from it. The color of this fold is generally redder than that of the surrounding mucous membrane, but it may be normal; on the whole it presents an innocent appearance, and yet it is frequently the sole lesion to be found, which may account for a train of constant and disagreeable symptoms. That it should be recognized and classified as an important pathological change in catarrhal pharyngitis is proved by the fact that with its destruction the unpleasant symptoms of the patient frequently disappear. In what cases do we find evidence of "pharyngitis lateralis"? Slight pathological changes in this direction are seen in many, perhaps the majority, of cases of post-nasal pharyngitis, but in my experience the disease is particularly peculiar to a certain class of patients—thin, pale, nervous men and women, more frequently the latter; people who are always thinking and talking of their throats, who suffer from sore throats almost every day. This soreness, they explain, is a feeling of burning and rawness rather than of pain. The discomfort is present in the morning, disappears after breakfast, and returns during the afternoon. Fatigue of the voice during speaking and singing is another prominent symptom. The sufferer is extremely apprehensive in regard to the condition of his throat, and believes that he is the victim of cancer or consumption. Examination of the pharynx and larynx shows but little. A pale mucous membrane, with but little submucous tissue, drawn tightly over the prominences of the cervical vertebræ, a few enlarged follicles scattered over the pharyngeal wall, and a number of prominent veins, are the changes which first meet the eye, but none of these adequately explain the severity of the patient's symptoms. During a paroxysm of gagging, however, the thickened lateral wall of the pharynx is brought prominently into view, and on touching it firmly with a probe, a sensitiveness is noticed which is not elicited by pressure on other parts. A coughing paroxysm, spasm of the glottis, and a husky voice are the temporary results produced by this stimulus.

That this pharyngeal band is the pathological condition which produces the rawness, pain, and fatigue of voice, it is fair to conclude, since these symptoms are usually relieved or disappear altogether when this ridge is destroyed by caustics or the cautery.

I believe that it is a mistake to consider the middle pharynx so much a part of the alimentary tract as only to be affected by and together with stomachic trouble. Glandular hypertrophies in children and connective-tissue infiltration in adults are characteristic lesions in the oro-pharynx of a chronic catarrhal pharyngitis, similar in character to and directly dependent upon nasal and post-nasal catarrhal inflammations.

And the two lesions I have called your attention to in this paper—first, the direct connection of the upper and lower tonsils through the medium of enlarged mucous follicles of the lateral walls of the pharynx, and, second, the hypertrophied lateral pharyngeal bands composed of glandular and connective-tissue elements — these two lesions demonstrate that the upper and middle pharynx are two portions of the same tract, attacked by the same inflammatory processes by reason of the same causes, and they are not materially unlike by reason of any difference in anatomical structure or physiological function.

THE INDUCTION BALANCE AND THE TELEPHONIC PROBE.

Report of Six Cases of the Use of One or Both to determine the Location of Metallic Masses in the Human Body.

By JOHN HARVEY GIRDNER, M. D.

I wish to record the following six cases in which the induction balance or telephonic probe, or both, were used to determine the location of leaden bullets or other foreign metallic masses having a lodgment in the human body:

Case I.—A gentleman, while serving as colonel in the Federal army during the late war, received a gunshot wound in the breast at the battle of Cedar Mountain. The bullet—a musket-ball, he thinks—entered the chest at the left sterno-clavicular articulation, throwing the clavicle upward from its articulation about two inches, from which position it was properly replaced by the surgeons at the time of the accident, and they were also of opinion that the bullet had passed directly backward and a little outward, and was lodged underneath the scapula of the same side, and no attempt was made to remove it.

After a few weeks an abscess formed, and pointed between the fifth and sixth ribs of the left side, at their junction with the sternum. The pus from this abscess was supposed to have originated at the wound of entrance, and to have found its way to this point by passing down on the inside of the chest-wall. Both this and the wound of entrance healed after a few months, and the colonel returned to duty, and, except a slight comparative muscular weakness of the left arm and occasional neuralgic pains, has remained well ever since, so far as this wound is concerned.

Last January I made a thorough examination of this patient with the induction balance, with results as follows: When the center of the *induction area* came to a point in front of the spine of the left scapula, and a little to the left of the suprascapular notch, there was a faint, but perfectly distinct, response in the telephone, which was verified by Dr. Banks and Dr. Hitchcock, who were present at the examination, and thus the induction balance pointed out the location of the bullet about where the army surgeons had supposed it to be. Going now to the front of the chest, the exploring coils were passed over the surface without result until the *induction area* was brought directly over a point an inch above the cicatrix left by the opening of the abscess above described, when a loud, high-pitched musical sound was produced in the telephone, showing the very close proximity to the surface of a pretty large mass of metal.

I ought to add that this patient was exhibited by me at the New York Academy of Medicine on February 3d, and so loud and distinct was the response that the president of the Academy, Dr. Jacobi, and others of the fellows present, had no difficulty in locating this "*sonorous spot.*" Now, as nothing except the presence of metal can produce a response in the telephone of the induction balance, it follows that we have discovered in this patient two bullets, or, what is more likely, one split into two pieces; I am the more inclined to the latter opinion, owing to the manner in which the clavicle was shattered at the time of entrance of the bullet, all the conditions being present for the splitting off of a portion of the bullet, which was thrown directly downward, and lodged at the point indicated by the balance, and being the cause of the abscess which formed at this point; and, further, the patient informs me that on the day following the accident, and for several days, the skin showed a deeply stained ecchymotic tract, leading from the point of entrance to the point where now we discover the bullet. Inspection and palpation of this point also show an enlargement or slight bulging out over the "*sonorous spot*," and pressure here is also painful. As these bullets cause no inconvenience, the patient has not consented to their removal, nor do I advise it; yet, if he consents, I shall not hesitate to follow out the indications of the induction balance in my operative procedures for the removal of these two masses of metal.

Case II.—The details of this case are fully given by Dr. C. W. de Lannoy in the Journal for August 27th, page 229.

Case III.—A young man received a pistol-shot wound in the right arm, the ball entering about the point of insertion of the deltoid muscle. This patient was under the care of Professor William T. Bull, by whom I was invited to examine him a few days after the accident happened. Exploration of the arm and axilla with the induction balance gave negative results, but when the coils were brought over a point on the top of the shoulder in front of the origin of the deltoid and about the junction of the acromion process with the spine of the scapula, a response was had in the telephone which was distinct and heard by several medical gentlemen present besides Dr. Bull; pressure also over this spot caused pain. The patient told me that as he saw his assailant approach from the front prepared to shoot, he turned his right side to him and threw up his right forearm on a level with his eyes, and thus the bullet, which would otherwise have struck the face or head, was received in the attachment of the deltoid, and the bullet, following its horizontal course, would naturally traverse the entire length of the deltoid while the arm was held in this horizontal position. The shoulder joint not being involved and the patient's general condition being so good, it was decided not to do an operation for the removal of the bullet, and the patient recovered shortly, still carrying the bullet in his shoulder.

Case IV.—A man, aged forty four years, received a bullet in the right ankle at the battle of Chancellorsville. I quote from a copy of the history of the case furnished me through the kindness of Professor T. M. Markoe, whose patient he was, and by whom I was invited to examine him.

"Right ankle is much enlarged and tissues about it thickened and indurated. The lower ends of both tibia and fibula show increased size and involucral action; movements of ankle joint limited owing to surrounding enlargement; one inch and a half above tip of external malleolus is a sinus which discharges a small amount of pus daily and admits a probe the distance of one inch and a half in the direction of the center of the limb."

When an ordinary silver probe was passed into this sinus, its walls for a greater part were found to be composed of dead bone, and the bottom of the sinus everywhere communicated to the hand the presence of dead bone or some hard substance, and no man could tell certainly if it were lead or dead bone which he was probing, or if indeed there was any lead at all in the wound, a condition of things such as, I am informed, inspired Nélaton to devise the porcelain probe. The Nélaton probe was next introduced, but no staining of the porcelain could be found, nor was this surprising, since the bullet had lain in its present position in the tissues for twenty-four years, and, as was shown on its removal, was thickly covered all over with a coating of lead salts, so that the porcelain could not be stained by the metal.

The telephonic probe was now introduced, and after probing a hard substance for a while, which was bone, without response, the bullet was struck, and a loud, distinct "click" was heard in the telephone, announcing, beyond the shadow of a doubt, the precise location of the missile.

As an audience was present which had been invited to see the induction balance used, I now began an exploration of the ankle with the coils, and soon found a sonorous spot in front of the ankle which gave a very clear sound, and was heard by Dr. Markoe, Dr. Peabody, and others. As Dr. Markoe held the telephone to his ear, listening to the unmistakable announcement by the bullet of its presence in this man's leg, he enthusiastically said to the audience: "Gentlemen, I wish every man in this room could hear what I am listening to at this moment." This sonorous spot was, of course, the point on the skin nearest to the bullet. Dr. Markoe now enlarged the sinus with the chisel and hammer, and removed from between the tibia and fibula a thickly incrusted leaden bullet weighing 200 grains, and the patient made a good recovery.

Case V.—This patient was examined at the invitation of Dr. William T. Bull. The patient was a woman, and the history is that seven years before, while fluid was being drawn from the right chest cavity by an aspirator, she suddenly started up from her seat and broke the needle off so close to the chest-wall that it was not possible to recover it. She was not told of the accident at the time, and, having made a good recovery from the pleuritis, suffered no inconvenience until after she was told that the needle had been left in her body, which was one year before I saw her and six years from the date of the accident.

She was a professional nurse of a very nervous temperament, and soon after she knew of the breaking off of the needle began to complain of severe sciatica on the same (the right) side, that she attributed to the presence of the needle, which she believed had found its way to the sciatic nerve, where its point was constantly pricking it. A thorough examination of the whole course of the sciatic nerve with the induction balance failed to discover any sonorous spot, and at no point in the course of the nerve could any response be obtained.

This negative evidence settles the question, beyond the shadow of a doubt, that the needle is not causing the pain of which she complains, for it is impossible that a needle of the dimensions of that left in her chest-wall should lie anywhere in contact with the sciatic nerve without being instantly detected when the induction area was brought over it. Neither the chest nor any other portion of the body was explored for the needle.

Case VI.—A man, while seated in a chair, was handling a 22-caliber revolver, and accidentally fired it. The ball entered the right thigh in the middle third, and to the inner side. His physician, Dr. U. G. Hitchcock, was called, and by him I was invited to see the patient.

Leading from the wound of entrance there was a tender tract which could be followed by the pain it caused the patient to press on it with the fingers, and which seemed to be the course followed by the bullet; this tender tract led downward and outward for the distance of about six inches, where it seemed to terminate, and the fingers, passed lightly over the part, seemed to detect a small, hard mass at this point which we thought to be the bullet. As no ordinary probe could be made to follow the long, narrow, tortuous channel left by the bullet, I now applied the telephonic probe, using a straight surgical needle of suitable length instead of a blunt probe. After making proper connections with telephone and steel plate, I plunged the needle through the skin and underlying tissues at right angles to the surface, at the spot where our sense of touch had led us to believe the bullet was; when the needle had entered the thigh to the depth of about one inch and a quarter, it touched the ball, the contact was announced by the click in the telephone, and thus our presumption as to the location of the bullet was verified; and, with the needle's course as a guide, I cut down and came at once on the bullet, which was removed without difficulty.

The induction balance was not used in this case, because the sense of touch suggested the spot on the surface opposite to the bullet, which the probe proved to be correct; but had no such evidence been obtainable by manipulation, then the balance would have been resorted to, and by its aid the location of the bullet would have been determined through the sense of hearing instead of touch.

GUNSHOT WOUND OF THE INTESTINES.

LAPAROTOMY; DEATH.

By ISAAC WARREN, M. D.,
SOMERSET, KY.

On December 16, 1886, I was called to see W. H., aged eighteen, who had been shot in the abdomen with a 38 caliber Smith & Wesson pistol. He was taken to his home, which was over a mile distant, in a wagon. He had been drinking freely all day, and when I first saw him it was impossible to tell whether he was suffering from shock, whisky, or cold—the weather being extremely cold—or all combined, but upon a more careful examination I noticed he was suffering from considerable shock; temperature 96° F., pulse feeble, very rapid, and a tendency to vomit. The ball had entered the abdomen on the left side about midway between the umbilicus and the anterior superior spinous process of the ilium, ranging downward and toward the spine. While I was not sure the bowels were injured, I felt quite certain of it, and so expressed myself to Dr. J. L. Owens, who saw the patient with me, and he concurred in my diagnosis. The reason I had for believing the bowels were injured was the peculiar decubitus of the patient, which I have never failed to notice when the bowels are cut—that is, the legs flexed upon the thighs and the thighs upon the abdomen; no matter whether lying upon the back or side, this position is assumed, and most of the patients have vomited or had a tendency to do so. Having read the report of Dr. W. T. Bull's case and some others, I had made up my mind that in the next case of gunshot wound of the abdomen with such symptoms I would perform laparotomy, provided I could get the consent of the patient and all concerned. This man was shot about three o'clock in the afternoon, and it was over an hour and a half before I saw him, and when I arrived at the house it was beginning to get dark. I was anxious to operate at night, but the house he lived in was a poor, miserable log-cabin with chinks on all sides, which would have had to be repaired to make it comfortable for well persons. He was placed in bed and given an opiate, and dry heat applied to the body and extremities to bring about reaction. He reacted slowly, and at twelve o'clock his temperature was 99·5° F., and the pulse quick and wiry. The morning following he showed decided symptoms of peritonitis, with distension of the abdomen, tenderness, vomiting, etc. As before stated, the room in which I had to operate was so open that it was impossible to maintain an equable temperature over the whole room, and at no time could it be raised above 65° or 70° F., when there should have been a temperature of 85° or 90° F. I should state that on the morning of the operation the thermometer stood six degrees above zero. The patient was anæsthetized by Dr. J. W. F. Parker, and I was assisted in the operation by Dr. George Perkins and Dr. J. L. Owens. The usual antiseptic precautions having been taken, an incision beginning an inch below the umbilicus was made in the median line to the symphysis, but before the operation was completed it had to be extended around the umbilicus. From the time he received the wound up to the time he was operated upon was just twenty-four hours, and upon opening the abdominal cavity a general peritonitis was observed, with here and there flakes of lymph scattered over the intestines. The intestines were carefully taken out coil by coil, and wrapped in towels wrung out in hot water, until the whole track had been examined. Five wounds of the small intestines were found, and two of the mesentery. The intestinal wounds were closed with Lembert's sutures, and those of the mesentery brought together in the usual way. The ball was not found. Carbolized silk was used for both intestines and mesentery. The abdominal cavity was washed out with a weak solution of carbolic acid. The abdominal wound was closed with silk sutures, and a rubber drainage-tube introduced. Antiseptic precautions were observed throughout the operation. The operation lasted an hour and three quarters, the patient taking the anæsthetic well, which was Squibb's ether. He recovered consciousness and conversed freely with his family, but died fourteen hours afterward from exhaustion. No post-mortem was held.

I feel confident that, had his surroundings been better and the room one I could have regulated the temperature of, and the operation had been performed the evening of the day he was shot, the result would have been different. As the prognosis in such cases is always death when left to the old mode of treatment, I think it is the duty of every surgeon to offer this chance. It is in the power of every doctor who makes any pretensions to surgery to perfect himself in this operation outside of the large cities by first operating upon some of the lower animals. The indications are the same with a dog shot through the bowels as with a man. It is an easy matter for any one to make himself familiar with the details of the operation and become quite dexterous. In the language of one of Captain Marryat's characters, "I will pick my flint and try it again."

Correspondence.

LETTER FROM LONDON.

The Bradshawe Lecture.—Pneumothorax.—The Death of Two of M. Pasteur's Patients.

London, *September 3, 1887.*

The monotony of the summer months, from a medico-literary point of view, is only broken by the annual Bradshawe lecture delivered at the College of Physicians in the middle of August. As a general rule, lectures at this institution are not attractive. The small theatre used for the purpose is very badly ventilated, and even in winter a considerable percentage of the invariably scanty audience find it difficult, if not impossible, to keep awake. On the last occasion, a fortnight ago, the authorities wisely decided to use the library instead, a much more spacious room, and much cooler. It was well they did so, for the attendance was an unusually large one, and the little theatre would have attained an intolerable degree of stuffiness. Dr. Samuel West, the recently appointed junior assistant physician to St. Bartholomew's Hospital, was the lecturer, and pneumothorax the subject he had chosen.

So far as causation was concerned, excluding the traumatic cases, he said, practically phthisis was the cause in the rest, a very few being due to acute breaking down or gangrene of the lung, and the cases of pneumothorax in the so-called healthy must be classed with the phthisical. He had arrived at this last opinion partly upon experimental grounds, for in the dead body, with the lungs *in situ*, he had found that a pressure of at least eight or nine inches of mercury was required to rupture the lung and produce pneumothorax, and this was a far higher pressure than was ever attained in any expiratory effort in health. Moreover, it was a notorious fact that these cases of pneumothorax were exceedingly insidious in their onset, and came on without any known effort; the only inference, therefore, was that the lung was already diseased, and he instanced several cases where pneumothorax had occurred either with very limited phthisical lesions or in cases followed by recovery.

The second class of cases—viz., the traumatic—called forth some very interesting facts and observations. The lecturer first reminded his hearers that, when the lung was wounded, whether by a simple fracture of a rib or by a wound communicating with the outer air, emphysema of the skin was always produced, but only in exceptional instances pneumothorax. Accepting the normal elasticity of the lung at seven millimetres, he said that, if, when the pleura was opened, the lung did not contract, it must be kept on the stretch by some force greater than seven millimetres, but there was no place for such a force to act in except in the pleura; therefore, if such a force existed, it must be in the cohesion of the two surfaces of the pleura. This theory he had tested in the following manner: Two mahogany discs of five centimetres diameter were made, smooth on the surface, and over the two surfaces pieces of stomach with the peritoneal surfaces outward were tightly stretched; it was found that they glided smoothly over one another, but that considerable force was required to draw them apart. By careful experiment it was found that a weight of 325 grammes was required to effect the separation. The discs were next perforated, and an oval slit was cut first in one membrane and then in both, corresponding to the hole in the disc, so as to permit of access of air between the discs, but practically there was no difference in the weight required to separate them. The elasticity of the lungs, as already stated, represented a column of mercury of seven millimetres, and the weight of this column, with a base of five centimetres, was 185 grammes; the force of cohesion, therefore, was very greatly in excess of that of the elasticity of the lungs, or, putting it in terms of mercury, the force of cohesion was equivalent to a column of 12·5 millimetres of mercury. In subsequent experiments he had found that at higher pressures than this air could be introduced by gently separating the two layers of membrane, but that when the pressure was reduced to 12·5 millimetres, the two layers immediately returned into close apposition, and expelled any air that had been introduced. He found that the two surfaces must be moist, neither dry nor wet; an extremely fine film of fluid should be between them, exactly the condition which obtained in the normal pleura.

The practical outcome of these experiments was that pneumothorax was of expiratory origin, and required a considerable force for its production, and that surgical emphysema rather aided in preventing pneumothorax than otherwise, the subcutaneous tissues offering less resistance to the passage of the air than the pleural surfaces.

The anti-Pasteur faction are in great glee over the fact that two more of Pasteur's patients have died from hydrophobia. The first of these, an Irish peer, aged seventy, was bitten by a tame fox in January last. He underwent a month's treatment in Paris, but developed symptoms of hydrophobia a few days ago, and died in the course of two or three days. His groom, who was bitten at the same time, and also treated by Pasteur, remains in good health. The other case was that of a child of four, who was bitten some six weeks ago, and was treated by Pasteur. Symptoms of hydrophobia appeared the day after his return to this country. It must be admitted that in these two instances the treatment by Pasteur has failed, though it is not necessary, as some would do, to attribute the deaths to the treatment rather than to the original bite.

Hydrophobia in Russia.—Hydrophobia during the past few weeks of abnormally hot weather, says an Odessa correspondent, appears to have become epidemic. "Our Pasteurian Hospital here," he adds, "is overwhelmed with cases. The operating-room is crowded during six hours every day with continuously succeeding batches of patients from every quarter. Within the last ten days, besides local cases, there have arrived for treatment here forty-seven patients—twenty from Kieff bitten by rabid dogs, fifteen from Podolia bitten by a rabid wolf, and twelve Montenegrins also suffering from mad-wolf bites. There are seven Turkish cases under treatment, and 120 others from various neighboring districts. Each patient is inoculated twice a day for ten, and in some cases for twenty, consecutive days, so that Dr. Gamalea and his two lady assistants have just now their hands full. The authorities here seem to have taken alarm at the extraordinary increase of rabies, and are taking measures for the destruction day after day of the stray dogs in different quarters of the city." Within twenty-four hours of writing the correspondent learns that three deaths have occurred among the patients in the bacteriological station there, the victims being a man and two boys who formed part of a contingent of fourteen Caucasians bitten by a rabid she-wolf. The deceased lad is said to have been under treatment for nineteen days, and to have been inoculated thirty-eight times. Dr. Gamalea would not guarantee the efficacy of the Pasteur system in the cure of wolf-bitten patients unless they were in his hands not later than three days after being bitten. This was of course impossible in the case of the deceased Caucasians, who could not reach the Odessa station within a week.—*British Med. Jour.*

Dr. Giraud-Teulon, of Paris.—The death of this distinguished physicist and physiologist is announced in the "Gazette hebdomadaire de médecine et de chirurgie." He was, perhaps, best known by his ophthalmological writings.

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OUR FOREIGN VISITORS.

Not only the meeting of the International Medical Congress in Washington last week, but also that of the American Dermatological Association in Baltimore a short time before and that of the American Gynæcological Society in New York this week, have been the occasion of a number of distinguished medical men from various European countries coming into personal contact with the resident members of the profession in the three cities mentioned, and not with them alone, but with many practitioners from all parts of the United States in attendance at one or more of the three meetings. The meeting of the American Gynæcological Society, as had been expected, was unusually satisfactory and profitable. The attendance of Europeans of distinction was large, and it is understood that their impressions of the proceedings were very pleasant. Among those who have been present with us in New York during the greater part of the week were Dr. George Granville Bantock and Dr. Graily Hewitt, of London, Dr. Alexander R. Simpson, of Edinburgh, Dr. George H. Kidd, of Dublin, Dr. Doléris, Dr. Terrier, and Dr. Apostoli, of Paris, Dr. Martin, of Berlin, Dr. Cordes, of Geneva, and Dr. Unna, of Hamburg.

Most of these gentlemen were here as the invited guests of the American Gynæcological Society, and social arrangements were not wanting by which the local profession were enabled to make their acquaintance. On Monday evening several of the gynæcologists mentioned were present at the Union League Club, at a dinner given by Dr. Paul F. Mundé; on Tuesday evening Dr. Robert W. Taylor gave a dinner in honor of Dr. Unna, followed by a theatre-party; on the same evening a reception was held at Dr. Fordyce Barker's; on Thursday evening the American Gynæcological Society had its annual dinner, at which most if not all of its guests were present; and on Tuesday, Wednesday, and Thursday very much the same company was gathered at Delmonico's in the middle of the day. There were also several other private dinner-parties. It is particularly worthy of note that the venerable president of the International Medical Congress, Dr. Nathan S. Davis, was present at Dr. Barker's reception.

There is every indication that our foreign visitors have enjoyed their sojourn in New York. Of far greater consequence, however, has been the opportunity afforded to many of our own number of coming into contact with them under peculiarly pleasant circumstances. The effect of having one's notions brightened by even a brief companionship with men who are the recognized leaders of medicine in communities in many respects radically different from one's own can not fail to be permanent. The sight of those who took part in the discussions at the Gynæcological Society's meeting must add something to the interest, and perhaps also to the intelligibility, of whatever of their writings we may read in the future. There is indeed nothing but mutual profit to be drawn from the social commingling of men engaged in the pursuit of the same studies under very different surroundings.

MINOR PARAGRAPHS.

ANÆSTHETICS AS A CAUSE OF INSANITY.

In the Section in Psychology of the British Medical Association, a report of which we find in the "British Medical Journal," Dr. George H. Savage, of London, lately made some interesting remarks on various exciting causes of insanity, especially of the delirious type. Among these causes, he spoke of various drugs, and particularly of alcohol and anæsthetics. Given certain predisposing conditions, the most prominent being a previous attack of insanity, anæsthetization would in some instances either give rise to delirium passing into insanity, or revive a past insanity.

THE DETECTION AND REMOVAL OF IMBEDDED NEEDLES.

Mr. H. Littlewood, of Leeds, describes in the "Lancet" his method of detecting needles in the tissues and removing them. The part supposed to contain the needle is first rubbed thoroughly with an electro-magnet, so as to magnetize the needle if it is there. Then a delicately balanced magnetic needle is held over the part as a searcher. When the situation of the needle has been ascertained, the part is rendered bloodless, cocaine is injected, and an incision is made, through which an electro-magnet is inserted to feel for and extract the needle. The author states that needles are thus often found and removed quite readily, but that in some instances as much as half or three quarters of an hour is required.

FLIES AS DISSEMINATORS OF TUBERCULOSIS.

A recent number of the "Gazette hebdomadaire de médecine et de chirurgie" contains an abstract of an interesting communication to the French Academy of Sciences, on the dissemination of the tubercle bacillus by flies. They settle in great numbers upon the sputa of phthisical patients, become gorged with the bacillus, and then convey it to articles of food. The recommendation which the authors, Dr. Spillmann and Dr. Haushalter, found on these observations is that the sputa should be rapidly and thoroughly disinfected.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 13, 1887:

DISEASES.	Week ending Sept. 6.		Week ending Sept. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever...............	45	12	47	7
Scarlet fever...............	33	3	36	9
Cerebro-spinal meningitis....	5	5	3	3
Measles.....................	7	1	9	1
Diphtheria.	65	22	81	26
Small-pox...................	3	1	4	1

The American Gynæcological Society, which held its twelfth annual meeting in New York on Tuesday, Wednesday, and Thursday of this week, elected officers for the coming year as follows: President, Dr. Robert Battey, of Rome, Ga.; vice-presidents, Dr. A. Reeves Jackson, of Chicago, and Dr. James R. Chadwick, of Boston; secretary, Dr. Joseph Taber Johnson, of Washington; treasurer, Dr. Matthew D. Mann, of Buffalo; members of the Council, Dr. James B. Hunter, of New York, Dr. R. B. Maury, of Memphis, Tenn., Dr. C. D. Palmer, of Cincinnati, and Dr. Frank P. Foster, of New York. It was voted to hold the next meeting in Boston, beginning on the third Tuesday in September. A report recommending that the society take part in the proposed confederation of special societies failed of adoption. Dr. Cornelius Kollock, of Cheraw, S. C., Dr. Howard N. Kelley, of Philadelphia, and Dr. Bache McE. Emmet and Dr. H. T. Hanks, of New York, were elected to membership.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 4, 1887, to September 10, 1887:*

Byrne, C. C., Major and Surgeon. Detailed as a member of the army retiring board in Washington city, vice Captain Washington Matthews, Assistant Surgeon, relieved. Par. 2, S. O. 208, A. G. O., September 7, 1887.

O'Reilly, R. M., Major and Surgeon. Ordered to proceed to Fort Niagara, New York, on public business, and upon completion thereof to return to his proper station, Washington, D. C. Par. 10, S. O. 205, A. G. O., September 3, 1887.

Perley, H. O., Captain and Assistant Surgeon. Ordered to accompany battalion of the 23d Infantry from Fort Wayne, Michigan, to Chicago, to participate in the International Military Encampment to be held in that city in October next. Par. 1, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

Banister, W. B., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for extension of one month, to take effect upon arrival at Fort Lowell of Assistant Surgeon J. B. Girard. Par. 4, S. O. 91, Headquarters Department of Arizona, August 29, 1887.

Suter, William N., First Lieutenant and Assistant Surgeon. Ordered to accompany Battery E, 3d Artillery, from Washington Barracks, District of Columbia, to Philadelphia, on the 14th inst., to participate in the military parade during the celebration of the centennial of the adoption of the Constitution, September 15, 16, and 17, 1887. Par. 3, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending September 10, 1887:*

Sawtelle, H. W., Surgeon. Granted leave of absence for fifteen days. August 31, 1887.

Carmichael, D. A., Passed Assistant Surgeon. Granted leave of absence for thirty days. September 5, 1887.

Fattic, J. B., Assistant Surgeon. Ordered to Cairo, Ill., for temporary duty. September 6, 1887.

Society Meetings for the Coming Week:

Monday, *September 19th:* New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *September 20th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *September 21st:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Alleghany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *September 22d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *September 23d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Obituaries.

Alonzo Clark, M. D., LL. D., died on Tuesday of this week, at his house in East Twenty-first Street, in the eighty-first year of his age. For a long time he had been in feeble health, and for several days preceding his death he was in a state of coma. For many years Dr. Clark was the professor of pathology and practical medicine in the College of Physicians and Surgeons, of which he was also president for several years. During the greater part of his professional life he was one of the physicians to Bellevue Hospital, and at the time of his death he was a consulting physician to that institution, as well as to the Roosevelt Hospital, St. Luke's, and St. Mary's. He was also a fellow of the Academy of Medicine and of a number of local societies.

During almost the whole of his long professional career, Dr. Clark was a teacher of medicine, and in his prime he was unexcelled, perhaps unequaled in this country, as a lecturer. He spoke with remarkable precision, with fervor, with wonderful impressiveness, and at times with a humor that was quite peculiar. As a lecturer, he was perhaps chiefly noted for his graphic but not overdrawn pictures of disease. For many years he did a large consultation practice, and also saw great numbers of patients daily at his house. The impression which he made upon the practice of his time was most notably exemplified in his introduction of the opium treatment of peritonitis.

Personally, Dr. Clark was of majestic appearance. His manner was always quiet and precise, and his kindliness was proverbial. He was one of the greatest men that the New York profession has ever included. His death had long been expected, but nevertheless it will be felt as a heavy loss.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Twelfth Annual Meeting, held in New York, Tuesday, Wednesday, and Thursday, September 13, 14, and 15, 1887.

The President, Dr. Alexander J. C. Skene, of Brooklyn, in the Chair.

The Address of Welcome.—The first day's session having been called to order in the Hall of the Academy of Medicine, Dr. Fordyce Barker, of New York, read the following address:

The pleasing duty has been assigned to me by our committee of arrangements of welcoming you in behalf of the resident fellows of New York and Brooklyn, in behalf of the Academy of Medicine, and in behalf of our affiliated societies having the same aims and objects. This is now our twelfth annual meeting, the third in this city. Our society is organized for mutual edification and not for mutual admiration, and I therefore resist the temptation to congratulate ourselves on the good work that we have accomplished in these twelve years. Neither shall I speak of the important additions during this period to the literature, to the science, and to the surgical art of obstetrics and gynæcology which have contributed to give a lasting fame to active and honorary fellows of this society, both dead and living. It will be conceded by all the profession that in no department of medicine has there been a more rapid growth in each of these respects. In the aggregate, it may be asserted that both talent and genius have been developed and consecrated to these departments. I remember to have somewhere met with this terse distinction between talent and genius. "To do easily what others do with difficulty, that is talent. To do what talent can not do, that is genius." Owen Meredith, now Lord Lytton, gave expression some twenty-five years ago to the same thought in the following couplet:

> "Talk not of genius baffled. Genius is master of the man.
> Genius does what it must, and talent what it can."

Talent and genius are both original endowments, and therefore are not qualities of which to boast, but I feel warranted in referring to the success of our society in one of its aspects. It has brought its fellows into intimate relations of warm personal regard. It has not only made us acquainted with the mental caliber and acquirements of our associate fellows, but it has made us to know their winning and lovable personal qualities. Our discussions have not been wanting in sharp criticism, or freedom in pointing out supposed errors in the statement of facts, or fallacies in reasoning, or absurdities in deduction, or the futility or danger of suggested plans of practice or operations. But not in a single instance that I have known of has there appeared in our discussions anything bearing the semblance of personal rancor, of the sting of venom, of a desire to wound, or of an ignoble ambition to triumph by sharp personal repartee; but the courtesies of debate have always been maintained on a high level. Neither has the time of our meetings been wasted in listening to profitless and wearisome discussions of personal claims to priority. All of our fellows seem wisely to have decided in their own minds that their present and posthumous reputation would rest on the aggregate of good work they had accomplished, and not on the single merit of having been the first to suggest a plan of treatment or a special operation. All know that now claims to priority of whatever nature are sure to be contested and possibly to be confuted at no very remote period, although perhaps after the claimant has "joined the majority" and is no longer able to defend or explain his claim.

If, by referring to these merits, I lay myself open to the charge of assuming that the American Gynæcological Society is made up of gentlemen, I confess to the justice of the charge and "shall die impenitent," appealing to the record of our discussions in the eleven volumes of its "Transactions" in proof of the validity of my assertions. As modesty is well known to be our most prominent national characteristic, I have felt justified in saying this much, in order that our distinguished foreign guests, who have honored us by accepting our invitations and have come more than three thousand miles to do so, may better know the company that they are to meet. To them I will say, many of you are well known to many of us personally. All of you are well known to all of us by the good work that you have done. We give you a warm welcome, with the anticipation that the interest of this meeting will be largely enhanced by your participation in its work. We hope that you will find our hospitalities acceptable and agreeable, and we feel assured that you will leave behind you a warm place in our hearts which will bind us in as close affinity in our personal affections as we now are united in sympathy in our professional work. We welcome also our friends of this city and from other parts of the country, whose interest in the subjects to which we are devoted brings them here to watch our proceedings and to stimulate us to our best efforts. Your presence serves to imply a knowledge, through the medium of our published "Transactions," of the work which the society has done before, and an approval of it. We trust that your interest will be increased by this meeting.

Mr. President: In accepting the honorable duty assigned to me, I have felt it incumbent on me to bear two things in mind. First, that the duty is specific, simply to welcome the society and its guests. Second, that this welcome should be as short as possible, so that no time be lost for our scientific work. It therefore only remains for me to congratulate you that you have the honor to preside over such a body, and to congratulate the society that it has you as its presiding officer. I will only say for ourselves: *Cuncti adsint, meritæque expectent præmia palmæ.*

Invited Guests.—The Secretary, in behalf of the Council, reported a list of those whom it had decided to recommend to the meeting to be invited to take part in the proceedings as guests. No objection having been made, the president declared the list accepted. It included the names of Dr. Graily Hewitt, Dr. George G. Bantock, Dr. A. E. Aust-Lawrence, Dr. Lloyd Roberts, Dr. T. M. Dolau, Dr. N. C. Dobson, Dr. G. Burnand, Dr. John Goule, Dr. John Sivins, Dr. Boyd Jole, Dr. J. C. Leach, Dr. F. McTeagh, Dr. Thomas Logan, Dr. Fred Murgen, Dr. R. G. Smith, Dr. Parkinson, and Dr. Wiseman, of England; Dr. A. R. Simpson, Dr. Frome, Dr. M. J. Reid, Dr. J. M. Chapman, Dr. W. L. Reid, and Dr. J. M. Chapman, of Scotland; Dr. G. H. Kidd and Dr. Walter Browne, of Ireland; Dr. Doléris, Dr. Apostoli, and Dr. Terrier, of France; Dr. A. Martin and Dr. P. G. Unna, of Germany; Dr. Cordes, of Switzerland; Dr. Balls-Headly, of Australia; Dr. Grant (Bey), of Egypt; Dr. H. V. Knaggs, Dr. M. Ogden, and Dr. N. L. McPhalter, of British America; Dr. A. C. Bernays, of Missouri; Dr. W. T. Aiken and Dr. J. N. Stowell, of Illinois; Dr. Harvey and Dr. Chambers, of Indiana; Dr. Beebe, of Minnesota; Dr. Moseley, of Maryland; Dr. Hazzard and Dr. Atchison, of Tennessee; Dr. J. H. Davenport and Dr. G. W. Porter, of Rhode Island; Dr. W. A. Atchison and Dr. B. C. Hirst, of Pennsylvania; Dr. A. Van der Veer, of Albany; Dr. H. Howitt and Dr. W. W. Potter, of Buffalo; Dr. L. Rousseau, of Troy; and Dr. A. S. Hunt, of New York.

A Study of the Causes and Treatment of Uterine Displacements.—In a paper with this title, Dr. Thomas Addis Emmet, of New York, considered displacements, properly so called, as distinguished from mere changes in the attitude of the uterus. It was to alterations in the situation of the organ, he said, rather than to any of the varieties of anteversion, retroversion, or lateroversion—and particularly to its decided deviation above or below "the health line," as he had pointed out several years before—that the symptoms dependent on disturbance of the circulatory balance in the pelvis were to be referred. There were certain other symptoms, such as those due to traction on the *bas-fond* of the bladder, that might occur as accompaniments of a version, but the far more distressing and persistent manifestations caused by interference with the pelvic circulation were, as had been stated, brought about by changes in the situation of the uterus. This could be demonstrated by a very simple test: if, on examining a patient with prolapse of the uterus in the dorsal posture, some branch of the circular artery was distinctly felt pulsating, the patient would feel a sense of relief when the uterus was lifted to the "health line," and the pulsation would gradually cease if the organ was held in that position for a few minutes. On the other hand, if we raised the uterus too much, disturbance took place again; this afforded the explanation of the relief often given by removing a pessary that was so long in its posterior curve as to raise the uterus beyond the proper height. The anatomical disposition of the blood-vessels was such that a certain degree of traction exerted upon them embarrassed the return-flow of blood through the veins while a certain other degree of traction finally interfered with the afflux of blood through the arteries. In the treatment, therefore, the important point was to do away with all traction dependent on a displacement, without regard to the attitude of the uterus, and this could sometimes be accomplished with a retroversion pessary, although the organ might be anteverted. As to the agency of extra-uterine pelvic inflammation in producing displacements, the greater was the extent of the primary cellulitis, the more likely was a decided displacement to take place; but an inflammation confined chiefly to the peritonæum might draw the uterus either up or down, according to the situation and extent of the inflammation, and every version which was not the consequence of an injury or a new growth was caused by pelvic peritonitis. The uterine attachment of the Fallopian tube was somewhat higher than the insertion of the broad ligament into the side of the pelvis, so that the contraction following an inflammation confined chiefly to the peritoneal covering of the tube would have the effect of dragging the uterus down in the pelvis; on the other hand, if the inflammation had begun below, and extended along the connective tissue between the folds of the broad ligament to the peritonæum above, the uterus would be lifted in the pelvis in proportion as the peritonæum became involved and adhesions were formed above. When, after an extensive cellulitis within the folds of the broad ligament, the connective tissue there situated had been destroyed, and the inflammation extended to the peritonæum and led to adhesion of the opposing surfaces of Douglas's *cul de-sac*, the uterus was necessarily lifted. Then, in proportion as the layers of the broad ligament were separated or flattened and the vagina was ballooned out, would the side of the uterus be drawn upward toward the Fallopian tube of the same side. Thus it was that a lateral version took place as a permanent deformity, and not by shortening of the broad ligament, as was commonly thought. On the other hand, when the connective tissue between the folds of the broad ligament had not been involved, adhesion of the walls of Douglas's *cul-de-sac* would cause prolapse and retroversion. When the inflammation had been confined chiefly to the utero-sacral ligaments, the uterus would become anteverted and the cervix lifted in proportion to the extent of adhesion between the surfaces involved. A peritonitis limited to the lower part of the anterior fold of the broad ligament would retrovert the uterus by lifting the cervix, after the manner of a small fibroid at that situation; but where the inflammation had been more extended, and had led to broader adhesions, the uterus would finally become extremely anteverted and prolapsed.

The author then gave a brief *résumé* of his views of the importance of the pelvic fascia as a support to the contents of the pelvis, and repeated that to the loss of this support, rather than to rupture of the "perineal body," were to be attributed the uterine prolapse, proctocele, etc., that so often took place as the consequence of injury during parturition. Returning to the subject of pessaries, he said that the whole art of their successful application lay in so regulating their size and shape as to enable them to act none too little and none too much on the overstretched tissues within the pelvis; thus the needed support would be restored, and it was only when this had been accomplished that the pelvic circulation could be kept within its proper limits and the patient relieved. The instrument was of benefit indirectly by diminishing congestion and correcting prolapse, and not by merely overcoming a version. Where a displaced uterus was free from peritoneal adhesions, its replacement, followed by suitable support to the fascia, would result in its being retained in proper position. Atmospheric pressure in the knee-chest posture would accomplish this for the time being, and the weight of the water of a vaginal injection, properly administered, with the patient lying on her back and having her hips elevated, acted in the same manner, by uniform pressure; but the effect was only temporary. For years past, his daily practice had been to insert glycerined cotton wads in such a position that they would lift the uterus like a crutch, and thus overcome tension along some line of shortening due to inflammation; but he had never used more than was necessary to correct the prolapse. This mode of treatment had recently been advocated, but without a full recognition of the principle on which it acted. If the cotton pledgets were applied with the patient in the knee-chest posture and the vagina fully distended, and if the large quantity of cotton recommended was packed in, the practice was more likely to prove a source of irritation than of benefit. The author fully realized that his views might be misunderstood, and that it might be said hereafter that he did not approve of the use of pessaries; he therefore wished to state distinctly his belief that nothing could take the place of a pessary when properly fitted and when used in the proper class of cases, but he did think that the field of usefulness of the instrument was much more limited than was generally supposed. When it came to be recognized that a displacement of the uterus was merely a symptom, pessaries would be used more intelligently; less harm would then be done by their improper use, and those who now denounced them would become convinced of their great efficacy. No attempt should be made to correct a displacement so long as there was any evidence of recent inflammation in the neighborhood; at present, efforts in this direction—perhaps with the dangerous aid of the sound or the elevator—were too often made where sufficient means of detecting such evidence, especially by rectal examination, had been neglected.

Dr. Graily Hewitt, of London, would say, in the first place, that it gave him great pleasure to find himself present, and to see face to face so many gentlemen with whom he had been acquainted in spirit, he might say, for a long time. He believed that in fact Dr. Emmet and he differed in opinion less than might be apparent. It appeared to him, from all that he had been able to gather from the writings of Dr. Emmet and other American writers, that there was a difference in constitution in American and English women as regarded the frequency of pelvic inflammations or cellulitis. But his experience did not enable him to judge of the frequency of such inflammations in this country. He thought the paper gave rather a limited view of the causes of displacement of the uterus, although, to judge from his other writings, the author appreciated that other causes could be recognized. The influence of malnutrition in causing displacements, by destroying the tonicity of the parts, was mentioned. Regarding the cause of pain attending displacements, the speaker called attention to pressure upon the uterine nerves, due to the deflection and impeded circulation. Passing the sound through the internal os was attended by extreme pain, but this disappeared when the instrument got beyond the point of deflection, and did not reappear so long as the organ was retained in the straight form. He was disposed to entirely agree with Dr. Emmet in saying that pessaries should not be used if any acute congestion was present, but he thought one might define his position a little more accurately, and say that, if there was elevation of temperature, that restriction would be still more valid. But there were cases in which there were hardenings in the pelvis associated with displacements, and the reduction of the displacement would assist in causing absorption of such exudations. He did not think any man should apply a pessary until he had studied the case well.

Dr. A. R. Simpson, of Edinburgh, doubted whether the presumed greater frequency of uterine displacements and pelvic inflammations in American than in English women was real. He was strongly impressed that a great deal depended upon the state of mind the observer brought to bear upon the case before him. The same woman coming into the hands of different physicians would get quite different opinions upon her case, and each man might be perfectly honest in his judgment. He valued highly the labors of Dr. Emmet in the field of gynæcology. He also agreed with Dr. Hewitt in his remarks upon uterine displacements, that the author could not have intended to cover the subject fully in this paper. There was displacement in very different classes of cases, in women married several years but not having conceived, as well as in those who had borne children. It was in certain cases absolutely necessary to retain the uterus in its correct attitude in order that impregnation might take place. We should not look so much to the cause of inflammation, but right the uterus and keep it right. He made this remark because there was some tendency in certain directions to abandon the pessary. He referred to the advantages of injections of hot water.

Dr. G. G. Bantock, of London, could not agree with some of the remarks regarding the frequency of pelvic cellulitis and pelvic inflammation. He doubted very much indeed whether there was so much difference between the females on this side and on the other. Pelvic inflammation or cellulitis was a much rarer condition than had generally been supposed. Many so-called cases of cellulitis were cases of inflammation of the Fallopian tubes. But when we were called to treat a case of fracture of the arm we troubled ourselves little about the cause. This should be true of our dealings with cases of displacement of the uterus, especially retroversion—we should concern ourselves most with the treatment. In the majority of cases we could give relief by properly applying a pessary. Where adhesions had taken place between the uterus and the walls of the pelvis, pessaries should be set aside.

Dr. Emmet said a volume might be written on the causes of displacements, and he had stated that it was his intention to speak of the cause in only a particular class. A correct idea of this early inflammatory condition could not be obtained from a vaginal examination alone; conjoined rectal and vaginal examination was necessary. He did not condemn the use of pessaries; on the contrary, no man in the profession had used them more than he. But he was convinced that they were often improperly applied and did actual harm, and it was time to raise a warning voice against the abuse of a valuable means of treatment.

He was aware that pelvic inflammation was common among the unmarried, perhaps even more frequently than among the married. He also knew that peritonitis was recovered from often without treatment, otherwise we should see more sterile women than we now did.

Cystocolpocele complicating Labor and Pregnancy.—Dr. Samuel C. Busey, of Washington, in a paper with this title, gave the histories of reported cases of cystocolpocele complicating pregnancy and of those complicating labor; thirty-seven of the latter and six of the former. He read the full history of only one case, seen by himself the latter part of 1886; the cystocolpocele occurred about a month before term.

The patient was supposed to be in labor, although the pains were different from those of a prior confinement. An examination at first failed to reveal to him the real nature of the case, but soon the condition became clear. The finger introduced into the vagina found a blind sac and a tumor containing water, and the use of the catheter settled the diagnosis. The ætiology of the displacement was uncertain. The more plausible causes were slight diminution of the conjugate at the brim and negligent midwifery. The cases reported were only in multipara. The subjective symptoms varied in different cases, and were less important in diagnosis than the objective. The bladder might be found dislocated in the median line, or to one side; the displacement might be partial or complete; the organ lying behind the pubes might appear as two sacs. The condition was to be distinguished from breech and transverse presentations, a hydrocephalic head, a vaginal cyst, and an ovarian cyst. The obstacle to delivery would be speedily overcome by emptying the bladder, which was to be done with the catheter or by skillful manipulation of the displaced organ.

Dr. William Goodell, of Philadelphia, had seen two cases of cystocolpocele complicating pregnancy. In one the prolapsus occurred only a few days before delivery, and at first completely deceived him, as he supposed the woman to be in labor. The body felt in the vagina was as large as a child's head, and hard. There was marked vesical tenesmus with the pains. He had no difficulty in introducing the catheter and drawing the bladder, which promptly relieved the woman of her terrific pains. Labor, too, came on a few days afterward, and was not difficult. The other case was one in which the tumor complicated labor. It was smaller than in the former case, but it was sufficient in size to offer an obstacle to the passage of the head. He used the catheter, raised the bladder, and delivered with the forceps.

(*To be continued.*)

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The General Sessions.

(*Concluded from page 304.*)

Thursday's session was called to order by the president at 10.15 a. m.

The Protective Inoculation of Yellow Fever.—The following was reported from the Section in Public and International Hygiene:

Whereas inoculation against yellow fever, if it proves successful after further examination, is calculated to benefit the human race throughout the world; and

Whereas the facts presented by experiments of Dr. Domingo Freire afford a reasonable assurance of its protective influence in Rio de Janeiro; therefore

Resolved, That this section recommends the co-operative investigation of the results obtained by yellow-fever inoculations as a protective against that disease, and that adequate appropriations by the governments represented in this congress be made for that purpose.

Resolved, That this action be communicated forthwith for consideration in the general session of the congress.

The Washington Celebration in 1892.—The following preamble and resolution, introduced by Dr. Garnett, of Washington, seconded by Dr. Hamilton, the secretary-general of the congress, and warmly supported by Dr. Semmola, of Italy, was adopted:

Whereas it is proposed to hold in the city of Washington, in

1892, an international celebration in honor of the four hundredth anniversary of the discovery of America by Christopher Columbus, and an exposition of the history, arts, and industries of all nations;

Resolved, That the International Medical Congress favors this patriotic movement, and commends it to the nations of the world.

The Relations of Dermatology to General Medicine.—Dr. Martin, of Berlin, having been asked to take the chair, Dr. P. G. Unna, of Hamburg, delivered an address on this subject, in German. He alluded to the great interest which every practitioner must have in dermatology, and regretted that that branch of medicine had not received more general attention. Scientific dermatology was still in its infancy, and the many difficulties in the way of its study had to some extent interfered with its steady development; but, under the light of advancing science, these difficulties were fast disappearing. The speaker then mentioned some of the complications of skin diseases, and explained differences in the appearance of symptoms due to natural variations of the skin in individuals, also the changes of symptoms in the course of the development of skin diseases, the variations produced by external agents, individual peculiarities, and the influence of climate, season, race, sex, and age. Among the external agents, in the light of our present knowledge, parasites occupied the most prominent place. The difficulties incident to the variations mentioned were to be overcome only by a careful analysis of the symptoms, and all progress in this direction would prove of the greatest value in general pathology and therapeutics. In fact, dermatology, studied properly, would advance all departments of medicine. In place of experiments on animals, the speaker recommended experiments on the human skin, and cited instances in which this method of study had already led to a knowledge of new facts. The endowment of chairs of dermatology and the establishment of private laboratories were not sufficient for the thorough study of skin diseases; he would advocate a central institute where noted investigators could work together, and where all the means and appliances for the study could be concentrated. Dermatology would thus be raised to the rank of one of the more important specialties, and would contribute all the more to the progress of all branches of medicine. He hoped that the United States, always so liberal in its efforts to promote science, would be the first to develop this idea.

Friday's session was called to order by the president. A committee appointed to designate the place and time of holding the next meeting reported that the Tenth International Medical Congress was to be held in Berlin, in 1890.

The Treatment of Recent Cases of Insanity in Asylums and in Private Houses.—Dr. C. D. F. Phillips, of England, having been asked to take the chair, Dr. G. Fielding Blandford, of England, read an address on this subject. Happy, he said, was that psychologist who did not have to concern himself with his patients until he had received them within the walls of his asylum, and who did not have to advise removals, make out certificates, etc.; but very different was the lot of the consultant, who was summoned to see the patient at his home, perhaps to examine him in an assumed character, in order to advise a plan of treatment. Every conceivable objection would be brought against the plan of treatment proposed; he was expected to have some secret remedy that would bring reason back at once. Prognosis rather than diagnosis would be the chief subject of the speaker's remarks. Called to an acute case of mania, we had to consider whether it was likely to be of brief or of long duration, and where and how we could deal with it. The patient's friends would naturally oppose his going to an asylum, because of the stigma always attached to those who had been inmates of an asylum for the insane. In a practice of thirty years he had seen many cases of brief acute mania end in recovery without recourse to an asylum. He would first give some points which might help to determine the prognosis and afford a hope that the malady would soon pass away. Transitory mania was a term that well expressed the class of cases under consideration. The chief feature was the suddenness of the attack. There might or might not have been premonitory symptoms; this would depend upon the cause. The cause might be a sudden mental shock, the loss of a relative, or a surgical operation. He had seen several women who had had an attack of mania after a session with spiritualists or at a revival. It might occur after protracted fatigue or undue exposure to the sun. Acute maniacal symptoms sometimes occurred on the decline of an acute disease, such as measles, typhoid fever, and the like. The majority of such patients soon recovered. Sudden acute maniacal symptoms he had observed preceding an attack of rheumatism or gout, and they suddenly disappeared on the outbreak of the disease. Hence one might well make some application to the toes to precipitate the gouty attack. Brief attacks of mania sometimes developed after epileptic seizures. Delirium tremens was a transitory mania. We should be much aided in prognosis if we could ascertain whether the patient had had a previous sudden attack which had soon passed off. What was there in the physical condition of the patient to aid in the prognosis as to the duration of the attack? Not much was to be learned from the temperature, but rather more from the pulse. The latter might be quick during the expression of excitement, and fall very considerably afterward; if it did not fall, but remained comparatively rapid, even when the patient was relatively quiet, the chances were that the attack would be a prolonged one, lasting days or weeks. In sudden but short attacks, the tongue might remain moist and clear; if it was brown and dry, we could scarcely hope that the attack would pass away in two or three days. The treatment would often aid in the prognosis. Sleeplessness was the main feature in many cases, and not infrequently after prolonged sleep produced with a narcotic the patient awoke recovered. If the attack did not subside shortly, what was to be done? The patient's friends would oppose his entering an asylum, but that would be necessary, and the question would resolve itself into one of cost. In nine cases out of ten the patient would have to be removed from home, for home surroundings and the influence of relatives were prejudicial. It would be necessary to have not only a suitable room and furniture, but also an opportunity for exercise in the open air. In the treatment of the depressed and melancholic, the non-asylum plan would usually be found to have been tried before the patients were sent to the specialist, but, the gloom having deepened, the specialist was sent for. Should we send such patients to a private asylum? Here the question of suicide would probably come in. An asylum was not necessarily a safeguard against suicide. Special watch would have to be kept, and this could be done in either a private or a public asylum. We also had to take into consideration the egotism of such patients; place one of them among many others, and it would reduce his self-importance. The best medicine for these people was judicious neglect. The speaker was not one of those who thought that all or nearly all cases of acute insanity could be treated in private dwellings. An important point in this connection related to how far the law justified us in treating patients outside of asylums. In England, the physician did not have control of such patients, but he should be allowed to say whether or not a patient ought to be permitted to remain at his home.

Saturday's session was called to order by the president at 9.30 A. M. It was devoted chiefly to congratulatory resolutions and speeches and to votes of thanks. The president then made some closing remarks and declared the Ninth International Medical Congress adjourned.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

The President, Dr. William T. Briggs, of Nashville, Tenn., in the Chair.

Gunshot Wounds of the Abdomen. — Dr. Charles T. Parkes, of Chicago, read a paper on this subject. In 1885, he said, the recorded operations for gunshot wounds of the intestine were only six in number; since that time thirty-eight had been recorded, with eleven recoveries. All cases should be reported, whether successful or not. Surgical interference in appropriate cases was now the course generally accepted. The condition and appearances of the external wound would give some indication as to the presence or absence of penetration. A single wound of the abdomen afforded a hope that penetration had not taken place, but it was only a hope. Even the presence of a wound of entrance and one of exit did not positively indicate injury of the viscera. If there was a continuous tract of tenderness extending some distance from the wound of entrance, it was fair to infer that there was no penetration. A large bullet-hole indicated penetration. When there was doubt, the wound of entrance should be enlarged. In this way the presence or absence of penetration could be determined, and, with the usual precautions, this did not increase the danger. In the diagnosis, not much value could be attached to the subjective sensations. The unusually rapid appearance of tympanites in a region ordinarily dull would indicate an escape of gas into the abdominal cavity. Localized dullness in the region of the wound or in the dependent portion of the abdomen would indicate hæmorrhage. The presence of blood in the urine indicated wound of the kidney, bladder, or ureter. Shock could not be relied upon, but, when it was present, the probability of such an injury was very great. The rare phenomenon of fæces in the wound was a positive sign of perforation. The presence of persistent nausea and vomiting also pointed to injury of the viscera. The absence of pulsation in one femoral vein indicated injury of the iliac vessel.

In laparotomy for gunshot injuries, the median incision was the better in the majority of cases. There were exceptional cases in which enlargement of the original wound would do. The continuous suture answered every purpose, and, as it could be inserted more rapidly than Lembert's, it was preferable. Silk was preferable to catgut for the sutures. Where resection was required, one of two methods of procedure might be adopted. Where the mesenteric border could not be saved, the section should be made through the healthy bowel and a triangular portion of the mesentery also removed. The two portions of the bowel were then to be brought together and secured with sutures, the first suture being introduced at the junction of the mesentery and the intestine. In no case had the author found it necessary to use more than one row of sutures. All raw surfaces should be covered with peritonæum. The second method was applicable where the mesenteric border was not injured. In these cases the section did not involve the mesenteric border of the intestine. The injured portion alone was removed and the edges of the healthy bowel were brought together with the continuous suture. Where the omentum was injured, the hæmorrhage was often severe, requiring the removal of a large portion of the structure. All slits and lacerations in the omentum should be closed with continued sutures. In cases of perforation of the stomach, there was no difficulty in closing the wound after it was found. Where there was no complication, wounds of the stomach usually healed satisfactorily. In gunshot wounds of the liver, the surfaces should be brought together with deep sutures. The same procedure could be employed in the case of the spleen, but where this organ was badly lacerated its removal was indicated. Perforating wounds of the kidney called for removal of the organ. Perforation of the liver, spleen, or kidneys, with a similar injury of the small intestine, greatly increased the gravity of the injury, and such cases would usually end fatally. Wounds of the bladder called for suture. Special stress was laid on the necessity of seeking out all wounded blood-vessels, thus preventing the danger of primary or secondary hæmorrhage. There should be a careful search made for all wounds of the intestine, the bowel being examined in a systematic manner. Tight sutures should be avoided, for they would lead to sloughing and extravasation. If the peritoneal surfaces were laid in contact and kept so for a few hours, adhesions would take place.

An Experimental Contribution to Intestinal Surgery, with special reference to the Treatment of Intestinal Obstruction, was the title of a paper by Dr. N. Senn, of Milwaukee, Wis. The indications in the treatment of intestinal obstruction were, to remove or render harmless the cause of the obstruction, and the immediate restoration of the continuity of the intestinal canal. When the cause could not be removed, it was to be rendered harmless by forming an anastomosis between the portion of bowel below and that above. One hundred and fifty operations had been performed on animals. The principal forms of intestinal obstruction were produced artificially, and the attempt was made to devise some new operation whereby the obstruction might be overcome where the removal of the cause was not possible. The length of time required in the performance of most of the present operations was their great contra-indication. By simplifying the method of operation, the author had been able to lessen the time required. To prevent extravasation during the progress of the operation, he had employed a narrow rubber band tied around the intestine with sufficient force to occlude it. He had never observed any injurious effects from the use of elastic compression. The investigation was first directed to simple stenosis, which was produced by cutting out a semilunar portion of the bowel. Traumatic stenosis from this cause became a source of danger from obstruction or from perforation where the lumen of the bowel was reduced more than one half. Where excision of the bowel was required for injury, not more than one half should be taken away. If more had to be removed, circular excision should be resorted to. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practiced, for it was invariably followed by gangrene and perforation from interference with the blood-supply of the portion of bowel corresponding to the vascular defect. In circular constriction of the bowel, the immediate cause of gangrene was obstruction to the venous supply of the bowel, and it took place first at the point most remote from the cause of obstruction. Flexion was then produced by removing a portion of the bowel transversely and suturing the wound. It was found that on the convex side a defect one inch in width could be closed by transverse suturing without causing obstruction by flexion. In such cases the flexion was subsequently corrected by a compensating bulging of the mesenteric side of the bowel. Closing such a wound by transverse suture on the mesenteric side of the bowel might give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the blood-supply of the portion of bowel involved. Flexion caused by inflammatory and other extrinsic causes gave rise to intestinal obstruction only when the functional capacity of the flexed portion of the bowel had been diminished or suspended by the causes which had produced the flexion, or by subsequent causes independent of the flexion. Volvulus was simply another form of flexion. Volvulus gave rise to symptoms of obstruction when the causes of the rotation of the bowel had at the same time produced impairment or suspension of the peristalsis in the portion of bowel which constituted the volvulus, or when a diminution or suspension of peristalsis followed in consequence of the rotation.

In invagination, one of the most important factors in preventing disinvagination and in inducing gangrene was the accumulation of intestinal contents above the seat of invagination. Spontaneous reduction was not more frequent in ascending than in descending invaginations. The immediate cause of gangrene was obstruction to the return of venous blood by constriction. Ileo-cæcal invagination, when recent, could frequently be reduced by distension of the colon and rectum with water, but this must be practiced with great care and gentleness, as over-distension was productive of multiple longitudinal lacerations of the peritoneal coat, an accident which was followed by the gravest consequences. The competency of the ileo-cæcal valve could only be overcome by over-distension of the cæcum, which was effected by a mechanical separation of the margins of the valve; consequently, it was imprudent to attempt the treatment of intestinal obstruction beyond the ileo-cæcal valve by rectal injections.

In a study of the effects of enterectomy, it had been found that, in dogs, resection of more than six feet of the small intestine was uniformly fatal, the cause usually being the immediate effects of the injury. Resection of more than four feet was incompatible with normal digestion, absorption, and nutrition, and often resulted in death from marasmus. In cases of extensive intestinal resection, the remaining portion of the intestinal tract underwent compensatory hypertrophy. It had also been found that physiological exclusion of an extensive portion of the intestinal tract did not impair digestion, absorption, and nutrition so seriously as the removal of a similar portion by resection. Fæcal accumulation did not take place in the excluded portion. Objection was made to the various forms of suture used in circular enterorrhaphy for three reasons: first, the time required for their insertion; second, the danger of puncturing the bowel; and, third, the interference with nutrition which they caused. The author recommended the use of catgut in preference to silk. It was recommended that a rubber tube be introduced into the bowel, and the wound closed over it with two sutures. Ectropion was prevented during the operation by compression.

The line of suturing should be covered with a flap or graft of the omentum in all cases of circular resection, as this procedure furnished an additional safeguard against perforation. In circular enterorrhaphy, continuity of the peritoneal surface should be secured, where the mesentery was detached, by uniting the peritonæum with fine catgut before the bowel was united. This furnished better security against perforation on the mesenteric side. A strip of the omentum two inches wide was placed around the line of junction and secured with the sutures. The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular enterorrhaphy in all cases where it was impossible or impracticable to remove the cause of obstruction, or where the pathological conditions which had given rise to the obstruction did not constitute an intrinsic source of danger. In performing this operation, the speaker, after experimenting with plates of various materials, had adopted decalcified or partially decalcified bone. This procedure was indicated as a substitute for gastro-enterostomy. The stomach was exposed, and a longitudinal incision was made in its anterior aspect, so that a decalcified-bone plate having a sufficiently large opening could be introduced. This was secured in proper position with sutures introduced at the margin of the fistulous wound. The upper portion of the small intestine was treated in the same way, and the two parts were then brought into apposition and secured with silk sutures. In almost every instance where this had been done the result had been favorable. While the ordinary operation required at least an hour for its performance, this one could be performed in ten minutes. The same method of treatment was applicable throughout the intestinal canal, where it was desired to form a fistulous communication between the bowel above and that below. If there were indications of sloughing of the bowel or threatened gangrene, no such procedure should be adopted. An ileo-colostomy or an ileo-proctostomy also could be done by lateral implantation, the small intestine being introduced into an opening made in the large intestine and secured with a few stitches. In this case, a piece of rubber tubing was inserted into the bowel to keep it patulous. The restoration of the continuity of the intestinal canal by perforated approximation plates or lateral implantation should be done in all cases where circular enterorrhaphy was impossible on account of the difference in size of the lumina of the two ends of the bowel. In cases of multiple gunshot wounds of the intestine involving the lateral or convex side of the bowel, the formation of intestinal anastomosis by uniting two of the openings with decalcified-bone plates should be preferred to the use of sutures, as this procedure was as safe, if not safer, and required less time. The author had also made certain experiments with reference to the time required for the formation of adhesions. Definitive healing of an intestinal wound was only completed after the formation of a network of new vessels in the product of tissue proliferation from the approximated serous surfaces. Under favorable circumstances, quite firm adhesions were formed between the peritoneal surfaces within from six to twelve hours, which effectually resisted the pressure from within outward. Scarification of the peritonæum hastened the formation of adhesions and the definitive healing of intestinal wounds. Omental grafts from one to two inches in width, and sufficiently long to encircle the bowel, retained their vitality, became firmly adherent in from twelve to eighteen hours, and were freely supplied with blood-vessels in from twenty-four to forty-eight hours. Omental transplantation, or omental grafting, should be done in every circular resection or suturing of a large intestinal wound, as this procedure favored the healing of the visceral wound and furnished an additional protection against perforation.

(*To be concluded.*)

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 27, 1887.

The President, Dr. T. MITCHELL PRUDDEN, in the Chair.

Pulmonary Anthracosis.—Dr. PETERSON presented the lungs of a man, aged sixty-seven, who had suddenly fallen dead in the street. A certificate of death from fatty degeneration of the heart was made out, based on the post-mortem appearances. The case was interesting because of the condition of the lungs. The man had worked for thirty-one years in the cleaning rooms of stove-works, constantly inhaling an atmosphere loaded with carbon and powdered sand. The lungs were found to be stained black throughout, and hard and nodular to the feel, like a cirrhosed liver. A finger passed over the fresh cut surface was stained black with carbonaceous matter. One large lobule of the lung was composed almost entirely of fibrous tissue and carbonaceous matter. During life the man had had a severe cough. All the numerous men employed in the same room were sufferers from some pulmonary difficulty.

Renal Calculus.—Dr. Ira Van Gieson presented a large white kidney containing in the sinus a cylindrical calculus, 5 ctm. in length, 1 ctm. in breadth, sending off two prolongations about 1 ctm. in length into the calices.

Death from Phosphorus Poisoning.—Dr. Van Gieson also presented specimens from the body of a man who had died four days after drinking phosphorus in water. There were fatty degeneration of the heart, parenchymatous nephritis, and fatty changes in the liver, with swelling and granular changes in the cells and glands of the stomach, pancreas, Brunner's glands, and the trachea. An interesting point in the case was a very restricted area of tubercles observed in one bronchial gland. There were no tubercles elsewhere in the body. Thus we were brought face to face with the earliest step in tubercular change following phosphorus poisoning. Another point of interest was the presence of minute hæmorrhages seen only in the lymph channels of some of the cervical glands.

The President remarked that this was one of several cases of phosphorus poisoning in which there were actually fat droplets in the liver cells. He was disposed to think that the old distinction between fatty degeneration and fatty infiltration was not borne out by experience.

Dr. Carpenter, referring to the fact that Dr. Van Gieson had pronounced the bronchial gland tubercular without having examined for the tubercle bacillus, said that, according to the assertions of some physicians, we should never make a diagnosis of tubercle except on the evidence of the presence of the tubercle bacillus. It seemed to him that such assertions were too dogmatic; that we were yet able to say on microscopical examination that a given nodule was tubercle. Still, so far as it was practicable, we should extend the investigation and search for the bacillus, especially in cases in which the anatomical elements were not diagnostic.

Diphtheria; Death after Intubation.—Dr. Brothers presented a portion of the respiratory organs of a child which had died in its nineteenth month, of diphtheria. When he saw the child it had croupy respiration, and was becoming cyanotic. No false membrane was visible. There were physical evidences of pneumonia. The laryngeal tube was inserted, palliating the dyspnœa, but the child died about two days later. No false membrane was found on the tonsils or the pharynx. There was slight erosion of the tissues on which the shoulders of the tube had rested. The larynx, the trachea, and the larger bronchi were lined with a false membrane which could not be peeled off. The apex of the left lung and a part of the right lung were consolidated. The case, of course, did not speak against intubation.

Cirrhotic Liver, etc.—Dr. Frank Ferguson presented fresh specimens from the body of a man, forty-eight years of age, who had been a hard drinker for eighteen or twenty years. He had been well until three years ago, when he began occasionally to have swelling of the feet, dizziness, headache, and spots before the eyes. Three weeks ago his legs became very greatly swollen and his abdomen enlarged, and, on his admission into the hospital, he had not passed urine for three days, nor evacuated the bowels for five days. The scrotum was as large as an adult's head. He was semi-comatose, progressively grew worse, and died. At the autopsy there were found chronic diffuse nephritis with intense hyperæmia of the organs, and great hypertrophy of the left ventricle of the heart, the valves, however, being normal. There was intense hyperæmia of the stomach, with thickening of its mucous membrane. The liver was greatly advanced with cirrhosis, being composed almost entirely of fibrous tissue. The scrotum contained two distinct masses on the right side, found to be lipomata. The testicles were normal. The pancreas was unusually firm. The suprarenal capsules showed an unusual amount of fatty degeneration.

Book Notices.

The Climatic Treatment of Consumption. A Contribution to Medical Climatology. By James Alex. Lindsay, M. A., M. D., Physician to the Consumptive Hospital, Thronemount, Belfast, etc. London and New York: Macmillan & Co., 1887. Pp. xii–228. [Price, $1.75.]

All considerations of climatology are hampered by the insufficiency of positive data whereon to found therapeutic inferences. There are, in fact, but three qualities pertaining to "climate" to which in the present state of our knowledge significance can be logically ascribed; and these are indicated by barometry, thermometry, and hygrometry. Diathermancy is a corollary of atmospheric dryness and rarity. As regards ozone, the tests until very lately employed were acted upon by other oxidizing agents, and even with improved means no quantitative ozonometric method has been devised; nor, if it had been, should we be the wiser about the physiological action of ozone. Of the varying amount and effect of "atmospheric electricity" we are equally ignorant. The somewhat burdensome literature of the subject has therefore thus far consisted chiefly of a highly imaginative empiricism, obscured by an unintelligible jargon of technical terms, such as "tonic," "stimulant," "sedative," or "relaxing," without any attempt to expound the why and wherefore. While we regret to find in the present work a perpetuation of these unexplained and inexplicable terms, we congratulate the author on his emancipation from many of the superstitions which have hitherto retarded professional understanding and deluded many an unfortunate invalid; for he frankly admits that climate is indirectly, not directly, beneficial, being subordinate to other hygienic conditions; that "there is, in fact, no ideal climate for consumption"; and that "change of climate is likely to prove efficacious only when it is regarded as a preliminary step to a change in the mode of life"; cautioning consumptives against "the fatal delusion that a good climate is all that is necessary for the cure of their malady." That such a caution is needed by both the profession and the public may be demonstrated by desultory observation at the majority of the favorite resorts for phthisical patients either here or abroad.

The first chapter recites the author's views concerning the ætiology of consumption, discarding the hypotheses that heat, cold, sudden changes of temperature, and humidity of the air are causative or predisposing factors, though admitting that soil-saturation bears a relation to the incidence of the disease. Great altitude and sparsity of population are the two conditions most strikingly associated with immunity from consumption, and Dr. Lindsay lays emphasis on the influence of the former of these, even irrespective of density of population or sedentary occupation. His statistical arguments in this respect are, however, weakened by a failure to consider the necessarily different proportions of population in unwholesome vocations in lowland and mountain regions, and by his classing together all forms of "consumption," as where he compares the mortality of cutlers, filemakers, and workers at other "dusty" trades, with that of farmers, fishermen, etc. He justly describes consumption as "pre-eminently a disease of debility," due largely to foul air, unwholesome occupation, bad food, and [rather inconsistently with his earlier statements] "certain climatic conditions"; attaching, however, more importance than most modern writers do to "the hereditary factor," and less to the element of infection, regarding it as quite uncertain whether the bacillus of Koch "is related to tubercle as cause or accidental concomitant." The general aims of climatic treatment are summarized as involving removal from conditions which predispose to bronchial and pulmonary inflammations to those which conduce to an outdoor life of healthful activity; where sunshine and a "tonic" atmosphere promote appetite, digestion, and sanguification; "where there is no aggregation of large masses of people, and consequently no pollution of the air of respiration"; where the soil is dry, and sanitary surroundings are cared for; and finally, though somewhat vaguely, where the patient may enjoy "the great boon of change—change of air, change of diet, change of scenery, change of daily routine, change involving the abandonment of many an injurious habit which has long been the secret minister of disease." To these we should be inclined to add avoidance of the colonies of consumptives often crowded together in so-called health resorts, where, even aside from the question of renewed infection, the moral influences are the reverse of exhilarating.

Dr. Lindsay's classification of climates is into the oceanic, to be found only on shipboard or on small oceanic islands; the marine, at ordinary seaside places; that of deserts and inland plains; and that of great altitudes. As affecting the digestive functions, great altitude and oceanic conditions are spoken of as "decidedly tonic," the desert and dry marine resorts as "less decidedly tonic," and moist marine localities as "relaxing," while, to the nervous system, great altitudes and dry marine and desert regions are "stimulant," and moist marine or ocean situations "sedative." Succeeding chapters give descriptions of the places and voyages oftenest recommended to patients, with their respective advantages and disadvantages, and the indications for their selection. "Chronic tubercular phthisis" is to be benefited by great altitude, the ocean, or dry inland plains; chronic pleuritic or pneumonic processes, threatening tuberculosis, are favorably affected by the same means, substituting dry marine for oceanic air; "acute pneumonic phthisis," on the other hand, calls for a moist marine resort; patients with fibroid phthisis in an early stage should go to the mountains, or, if the disease is more advanced, to a dry marine or inland climate; those with "catarrhal phthisis" should seek a warm, moist region, but laryngeal ulceration renders all climatic treatment abortive; pyrexia or anæmia contra-indicates great altitude. In hæmoptysis, or "hæmorrhagic phthisis," the author gives a decided preference to great altitudes, for the reason that the determination of blood to the surface caused by diminished atmospheric pressure "is necessarily accompanied by a corresponding and proportionate diminution of the supply of blood to the viscera, and hence to the lungs," forgetting, apparently, that reduction of pressure must be as operative throughout the bronchial tract as on the surface of the body, and that the hæmorrhages are not interstitial, but from some portions of the air-passages or the cavities in connection therewith. Howsoever otherwise may be explained the alleged amelioration of hæmoptoic cases at Davos and some other elevated resorts, what we know of the effects of mountain-climbing, balloon ascensions, and the remounting from caisson-working, forbids its imputation to lessened pressure, and we must rather ascribe it to improvement in other coincident hygienic conditions; indeed, as regards choice of climate in all cases, the author postulates "the embarrassing, but necessary, admission that much depends upon individual idiosyncrasy." His wisest utterance, and one which the general practitioner would do well to take to heart, is that the quiescent stages of phthisis are alone suitable for climatic treatment, which should be discouraged while the destructive process is in active progress.

Transactions of the New York State Medical Association, for the year 1886. Volume III. Edited for the Association by Alfred Ludlow Carroll, M. D., of Richmond County. Concord, N. H.: Republican Press Association, 1887. Pp. 601.

This handsome volume, in appearance and in the value of the matter contained in it quite up to the level of its predecessors, shows that the association is not faltering in the work of producing and publishing essays and discussions of a very high order. Testimony to the same purport is borne by the programme of the fourth annual meeting, to be held next week, which we have already published. Summaries of many of the papers contained in this volume, and of a number of the discussions, were given in our columns on the adjournment of the meeting, so that specific reference to them now is unnecessary. The association's new editor, Dr. Carroll, has done his work well, as his known experience and taste gave every reason to expect. A pleasing phototype portrait of the late Dr. Flint forms a frontispiece to the volume. In connection with memoirs of deceased members there are other portraits. That of the late Dr. Gray, on steel, is admirable, but that of the late Dr. Hamilton seems to us somewhat defective in finish. The publication of these expensive volumes ought to be encouraged by the profession with greater liberality than seems to have been the case in the past; according to the treasurer's report, only thirteen copies of the second volume were sold during the period from November 9, 1885, to November 16, 1886.

BOOKS AND PAMPHLETS RECEIVED.

Plant Analysis as an Applied Science. By Helen C. De S. Abbott, Fellow of the American Association for the Advancement of Science, etc. A Lecture delivered before the Franklin Institute, January 17, 1887. [Reprinted from the "Journal of the Franklin Institute."]

Transactions of the Medical Association of the State of Missouri at its Thirtieth Annual Session, held at Macon City, Mo., May 10, 1887.

Miscellany.

Ourselves as Others see us.—The "New York Commercial Advertiser" lately published the following editorial article: "The International Medical Congress, now in session at Washington, is composed of unusually learned and able and intelligent men. They have dived deeply into the hidden nature of things; they have studied hard; they have investigated closely substances that are too infinitesimal to be apprehended by the unassisted senses; they are fired by an insatiable ambition to know more and more. Why is it, then, that they seem to know so little? They write whole libraries on otology and gynæcology and laryngology and bacteriology, and various other ologies, which the average educated man can neither define nor spell, and can hardly manage to pronounce; they have more drugs and surgical instruments, and healing appliances of all sorts, than there are hairs on a normal head; and still they can not, except in rare instances, keep a man in good health, even if the patient does exactly as he is told to do. We do not require the impossible. We must all die, and no one will blame the doctors for failing to preserve life indefinitely, or for being unable to avert fatal consequences in the case of a severe accident or disease. The question is not so much 'Why don't we get well?' as 'Why can't we keep well?' People are seldom downright ill, but they are perpetually ailing. Why can not the doctors stop this? It is fair to assume that they can not, because they certainly do not. The preservation of health is largely a matter of personal habits. It depends greatly on our way of eating, drinking, and taking care of the body generally. But there is no subject on which he doctors differ more hopelessly than on this. Some recommend tea and coffee; others denounce them as poisons. Some permit tobacco and alcohol in moderation; others forbid them entirely. Some say that pork and ham, though hard to digest, are still useful foods; others declare that no pig meat or anything derived from the pig is fit to be eaten. Some advise fruit only before breakfast, others only after dinner. Some depreciate the vegetables, others extol them as a main reliance. Some counsel bathing in cold water, others in warm or tepid. Some say we must sleep with the windows open always, others limit this injunction to the summer season. It is scarcely an exaggeration to say that no two doctors will give you the same instruction as to the commonest physical habits of life. Now, messieurs the doctors, it is all very well for you to raise men from the dead, and to cure violent diseases, and to be letter perfect on sarcoma of the larynx and the bacteriology of aural furuncles; but what we want to know is, What shall we eat? and What shall we drink? and Wherewithal shall we be clothed? The Gentiles are seeking after all these things, and they propose to find them out, too. It surely ought to be possible for the doctors, at this late day, to tell definitely whether coffee is a food or a poison, and how a sleeping apartment ought to be ventilated. It will not do to fall back on the old excuse that what is one man's food is another man's poison. Constitutions differ, doubtless, but not to that extent. Any particular chemical substance—nicotine or alcohol, for example—has a certain fixed, unvarying effect on every normal mucous membrane, and that effect must be either beneficial or deleterious to the membrane and the system. Which is it, messieurs the doctors?"

The Practical Element in Medical Education.—"This element," says the "Lancet," in its Students' Number, "is undoubtedly a most important one in medical education. It is admitted on all hands that medical education is better now than it has ever been. The public demand is higher, the efficiency of schools is greater, and their rivalry is keener. The basis of education has been raised, and the whole superstructure with it, including all its special and professional branches. All the strictly scientific parts of medical education are now taught in many schools as they have never been taught before. In some schools a large proportion of the teachers practically devote their lifetime to their work. But in spite of all this—or, perhaps, partly because of it—it has been complained that there has been a falling off in the practical parts of medical education, and that the newly fledged diplomate, or even graduate—though more transcendentally learned in minute anatomy, chemistry, physiology, and pathology than his predecessors—is less apt at recognizing and treating common diseases, upon which so much of his comfort and reputation in after-life depend. Some physicians and teachers of great authority admit and approve this. They say that it is inevitable, and that a student can not become a practitioner till he has practiced. This is of course a truism, but it is not a sufficient answer to the complaint. As medical science has improved, so has medical art. It is more neat, more direct, more precise, altogether more apt than it used to be; and medical students should be better trained in this latter, as they are in the former respect. The power of early recognizing scabies or scarlet fever, or a wrong presentation in midwifery, or a fracture in surgery, or a dangerous infantile diarrhœa, can be taught as well before the charmed diploma is given as after. So can the professional conduct proper to such discoveries. It is certainly possible to go through all the long and exacting existing curriculum of the schools and learn nothing of these things. Some of the schools have not the means of teaching them. With large museums and learned professors, they have not cases of disease and of midwifery such as constitute the bulk of medical practice.

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"We advise students, for their own sake, to cultivate the practical element in their own education; to learn for themselves early the interest of common cases, common remedies, and common causes of disease; to aim at readiness in detecting what is wrong, and in seeing the nature of the correctives that can be applied. Our recommendation is not in favor of dogmatism and quackery and a specific for every symptom, but in favor of the cultivation of a medical aptitude for detecting and removing the run of diseases for which people consult medical practitioners. No worthy student should wait for the action of medical authorities in demanding proof that he knows the profession on which his living and the life of his patients are to depend."

Prayer and Thermometry.—We find the following in the "China Medical Missionary Journal":

"The practice of medicine in China develops a singular medley of experiences, from the solemn and sad to the grotesque and ludicrous. In one of the wards of a medical hospital not far away, several female patients were especially devout after their own manner, spending much time in saying prayers together. They were disturbed as little as possible in their devotions, but when the hour for taking the temperature of one of them arrived, the Chinese medical attendant, with an unexpected combination of piety and business punctuality, approached one of the circle who were on their knees, and quietly inserted a thermometer in her mouth. The patient, with piety and obedience equal to the occasion, simply remained in the attitude of prayer with the thermometer sticking out of her mouth, presumably joining in spirit with the prayers her companions were still uttering aloud. A rather unusual combination of praying and working!"

A Sanitary Convention, under the auspices of the Michigan State Board of Health, is to be held in Owosso, on Tuesday and Wednesday, November 22d and 23d.

The Health of Michigan.—According to an abstract of returns to the State Board of Health, prepared by the secretary, Dr. Henry B. Baker, for the five weeks ending September 3d, diphtheria was reported from forty-nine places, scarlet fever from twenty-eight, typhoid fever from forty-nine, and measles from ten. As compared with the preceding month, there was an increased diffusion of diphtheria, scarlet fever, and typhoid fever, and a decreased area in which measles prevailed.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 8th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 20th corresponded to an annual rate of 23·3 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Derby, viz., 15, and the highest in Manchester, viz., 33·5 in a thousand. Small-pox caused 4 deaths in Sheffield.

London.—One thousand seven hundred and thirteen deaths were registered during the week ending August 20th, including 32 from measles, 23 from scarlet fever, 22 from diphtheria, 50 from whooping-cough, 14 from enteric fever, 316 from diarrhœa and dysentery, and 10 from cholera and choleraic diarrhœa. There were 178 deaths from diseases of the respiratory organs. Different forms of violence caused 58 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 21·2 in a thousand. In greater London 2,171 deaths were registered, corresponding to an annual rate of 20·9 in a thousand of the population. In the "outer ring" 131 deaths from diarrhœa and 12 from measles were registered.

Ireland.—The average annual death-rate represented by the deaths registered during the week ending August 20th in the sixteen principal town districts of Ireland was 26·7 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 5·1, and the highest in Wexford, viz., 42·8 in a thousand.

Dublin.—Two hundred and forty deaths were registered during the week ending August 20th, including 27 from measles, 3 from scarlet fever, 5 from whooping-cough, 4 from enteric fever, 37 from diarrhœa, and 2 from dysentery. Diseases of the respiratory organs caused 20 deaths. Six accidental deaths were registered, and in forty-nine instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 35·4 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 20th corresponded to an annual rate of 18·6 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 13·3, and the highest in Paisley, viz., 34·2 in a thousand. The aggregate number of deaths registered from all causes was 464, including 12 from scarlet fever, 1 from diphtheria, 24 from whooping-cough, and 6 from fever.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending August 13th, corresponded to an annual rate of 29·2 in a thousand. The lowest rate was recorded in Essen, viz., 15·4, and the highest in Chemnitz, viz., 50·7.

Palermo.—The United States consul, in his dispatch under date of August 15, 1887, states that "the cholera has appreciably increased during the week ending the 14th instant, the cases and deaths during that period amounting to 70 and 42, respectively. Still, in a population estimated from 250,000 to 300,000, the figures named are small, especially as the cholera germ has been discovered to be in great abundance in Palermo at this time. . . . Cholera thrives best in humid weather, and in hot, dry weather it becomes inert or dies. For some time past the temperature has been excessively hot and dry. . . . One case occurred on Saturday, immediately opposite the consulate, in the person of a girl fourteen years old. She was attacked on Friday evening at 8 o'clock, and at 11 o'clock on Saturday morning she died. Two other deaths occurred on Saturday, only a few doors from the consulate, as suddenly as that first named. The virus is more violent than it was in 1885, as indicated by the cases and deaths."

Gibraltar, August 15, 1887.—The board of health have decided that arrivals from ports in southern Italy, from Terracina round Spartivento to San Leuca, be subjected to ten days' quarantine, vessels having no sickness on board being allowed to coal and provision in quarantine.

Havana.—Fifteen deaths from yellow fever and 40 from small-pox are reported for the week ending August 27th.

Lima.—The United States consul, in his dispatch under date of August 13th, states that "it appears that cholera has never fully disappeared from the south of Chili in reality, and that it is now increasing in a degree at Concepcion, and possibly at Talcahuano and Talca, that is causing much alarm on the coast south."

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Calcutta	July 16.	433,219	151	22	....	....	....	....	....	....
Bristol	August 13.	333,695	85	..	....	....	....	1	5	....
Rio Janeiro	July 9.	300,000	277	..	....	63	....	2	....	....
Rio Janeiro	July 16.	300,000	344	..	....	103	1	1	....	....
Rio Janeiro	July 23.	300,000	334	..	1	123	1	3	....	....
Rio Janeiro	July 30.	300,000	317	..	....	97	1	2	....	....
Rio Janeiro	August 6.	300,000	359	..	1	149	....	....	....	5
Trieste	August 13.	150,157	98	..	....	1	....	...	5	1
Toronto	August 27.	120,000	22	..	....	....	....	2	....	3
Bremen	August 13.	119,000	51	..	....	....	1	1	....	1
Pernambuco	August 9.	111,000	50	..	....	....	....	1	....	....
Merida	August 9.	50,000	88	..	3	....	....	....	....	....
Guayaquil	August 18.	30,000	51	..	....	15	....	....	....	....

United States.

Key West, Fla.—Yellow Fever.—There have been no deaths from yellow fever at Key West since last report.

New York.—The medical officer in charge of the Marine-Hospital Service reports, under date of September 7th, one case of yellow fever. The patient was promptly isolated, and every precaution taken to prevent the spread of the disease.

ANSWERS TO CORRESPONDENTS.

No. 40.—In answer to your first question, our information is to the effect that none of the gentlemen mentioned were present. As regards your second question, the following is what we have been able to ascertain. In Colorado, the law of 1881 requires that an applicant for the right to practice medicine should either possess a diploma from a recognized medical college, the genuineness of which must be verified by the State Board of Medical Examiners (fee, $5), or pass a satisfactory examination before the board, wholly or in part in writing, in anatomy, physiology, chemistry, pathology, surgery, obstetrics, and practice of medicine, exclusive of materia medica and therapeutics (fee, $10). The board's certificate must be recorded in the county clerk's office (fee, $1). The penalty for practicing in violation of the law is a fine of from $50 to $300, or confinement in jail for from ten to thirty days, or both. In Kansas, the act of 1879 created a separate board of examiners for each sect (regular, eclectic, and homœopathic), each board being empowered to certify to the genuineness of diplomas and to examine candidates having no diploma. In Nebraska, according to the act of 1881, amended in 1883, an applicant must either (1) be a graduate of a legally chartered institution empowered to grant the degree of M. D.; or (2) have passed a satisfactory examination before an examining board of another State; or (3) have served in the War of the Rebellion as a commissioned medical officer; or (4) have practiced medicine for ten consecutive years (the last two years in the State), and have been a resident of the State at the time the law went into effect. Registration at the county clerk's office is also required, the fee being the same as for real-estate conveyances.

No. 41.—An entrance examination is not required this year, but it is announced that it will be required hereafter.

No. 42.—It may be applied dry, or made into a paste with a little water.

No. 43.—Fahnenstock's instrument, or some modification of it, is the one in general use.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, September 24, 1887.

Original Communications.

THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS.[*]

By CHARLES H. KNIGHT, M. D.

We have been told by one authority that in the normal condition the tonsils do not exist, or at least are not visible,[†] while another observer has recently asserted that these organs perform an important function in eliminating from the saliva certain ingredients which would otherwise be wasted.[‡] The special office of the portion of secretion thus absorbed is supposed to be to provide nutrition for the leucocytes formed in the tonsils. The old idea of the function of these bodies seems to have been that they furnished a lubricating secretion to facilitate the act of swallowing, as possibly suggested by the curious definition given in Motherby's "Medical Dictionary," published in 1795, which reads as follows: "They are of a reddish color, and externally have many holes, which communicate with an irregular cavity in their inside, and which contains a viscid fluid, which is gradually discharged from the holes into the throat." Whether we accept this view, or adopt the theory that they are in some way concerned in hæmatosis, or invest them with both these functions, the fact is evident that in many individuals the tonsils undergo enlargement to such a degree as to impair health, if not to endanger life, since in their hypertrophied condition they show a constant propensity to inflammation, which may assume a serious aspect. A fatal case of enlarged tonsils has been reported by Dr. C. A. Blair,[#] death resulting apparently from asphyxia. A case, reported by Shaw, is referred to by Lefferts,[‖] in which tracheotomy was actually performed in order to save the life of the patient. A similar case has been reported by Puech.[△]

The picture of a typical example of hypertrophied tonsils is a familiar one. If a child, the victim of this condition has the appearance of feeble health, the face is pale, the teeth are closely crowded in the narrow jaws, the mouth is small and is generally kept open, the lips are thick, the lower one often projecting and inverted, these conditions being due in part to defective development, and in part to the habit acquired of drawing the lower jaw forward in order to drag the tonsils away from the opening of the glottis. The nose is pinched, the nostrils are small and narrow. The voice is thick and lacks resonance. The child is apt to wear a heavy, stupid expression. Finally, the so-called "pigeon-breast" deformity results from the extraordinary labor demanded of the respiratory muscles. And yet we sometimes hear the advice given to let a child outgrow this condition. Undoubtedly, atrophy will in most cases occur after puberty, if the subject survives to that period, but meantime development is retarded, and robust health is utterly impossible. No doubt, too, when the hypertrophy of the tonsil is dependent upon a constitutional taint, much relief may be obtained from general medication, hygiene, generous diet, etc.

The question of the relation between hypertrophied tonsils and the constitution of the patient has been much debated. In his "System of Human Anatomy,"[*] Dr. Harrison Allen observes that "it is rational to assume that overgrowth of the tonsils is an attempt at compensation on the part of an organ engaged in manufacturing blood-corpuscles, when other blood-making structures, such as the medulla of bone, are inactive." Treves, in his work on "Scrofula,"[†] says that one of the most common manifestations of scrofula is the enlarged tonsil. On the other hand, Bosworth[‡] asserts that "it is the result of a purely local morbid process, not the outcropping of a constitutional dyscrasia. Impairment of health, if present, is a result, not a cause." Probably in many instances it would be more correct to say that impairment of health is *both* a cause and a result. In either case prompt recovery, or even marked amelioration, is not likely to ensue from any system of drug-giving or local applications. Very often improvement in the general condition is accompanied by decrease of local tumefaction, but the true hypertrophied tonsil never entirely disappears until maturity. From a critical review of the subject of amygdalotomy, by Felix Semon,[#] it appears that a process of atrophy is to be expected in not more than three fourths of the cases. In the mean time, nasal voice, defective articulation, mouth-breathing and snoring respiration, facial disfigurement and thoracic deformity, impaired audition, not from encroachment of the enlarged gland upon the Eustachian orifice, but from thickening of the mucous membrane of the tube, imperfect mastication, dyspepsia, and declining general health—comprise a train of symptoms which render the existence of the patient a burden to himself and to others. The extraordinary statement occurs in Billroth's "Surgical Pathology"[‖] that hypertrophied tonsils are commonly a sequel rather than a cause of pharyngeal inflammation, and hence relief of the latter can not be expected to follow their extirpation. Quite the contrary opinion is generally held. Disturbed cerebral circulation as a result of pressure from the enlarged glands has been suggested by Chassaignac,[△] and the same observer has called attention to disorders of digestion due not only to impeded deglutition, but also to the conveyance of putrid secretions from the tonsils to the stomach. Mackenzie[◊] notices that the senses of smell and taste become defective if the condition of

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[*] Read before the American Laryngological Association at its ninth annual congress.

[†] F. H. Bosworth, "Trans. of the N. Y. Academy of Medicine," vol. iv, 1886, p. 298.

[‡] R. Hingston Fox, "Jour. of Anat. and Physiol.," July, 1886, p. 559.

[#] "Med. and Surg. Reporter," Philadelphia, 1880, xlii.

[‖] "Med. Record," New York, 1879, xvi, 601.

[△] "Moniteur des hôp.," 1857.

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[*] Section vi, p. 640.

[†] F. Treves, "Scrofula and its Gland Diseases," 1882, p. 110.

[‡] "Trans. of the N. Y. Acad. of Med.," vol. iv, 1886, p. 305.

[#] "St. Thomas's Hosp. Rep.," vol. xiii, 129.

[‖] Transl. of 4th German ed., N. Y., 1872, p. 611.

[△] "Leçons sur l'hypertrophie des amygdales," Paris, 1857, p. 7.

[◊] "Diseases of the Nose and Throat," vol. i, p. 65.

hypertrophy be allowed to persist for a long time. In view of all these possible evils, the question of surgical interference must be considered.

The surgical treatment of enlarged tonsils has been a subject of no little discussion. The large number of amygdalotomes devised by various operators bears witness to the favor with which a cutting operation is regarded, while the supposed danger of hæmorrhage altogether deters not a few surgeons from the use of the knife. The question of hæmorrhage after amygdalotomy was the subject of an able paper presented to this association in 1881 by Dr. Lefferts.* The conclusions then reached were that fatal hæmorrhage was rare, that dangerous hæmorrhage occasionally occurred, that serious hæmorrhage, immediate or remote, was not unusual, while moderate bleeding, to a degree requiring pressure or the use of strong astringents, was common. In the course of the discussion following, Dr. Allen stated that he had discarded the bistoury and amygdalotome for fear of hæmorrhage, and was inclined to prefer the galvano-cautery. On the other hand, Elsberg announced that he had operated more than eleven thousand times, generally by cutting, and had met with but two cases of alarming hæmorrhage. In my own experience only two cases of serious bleeding have occurred—one in a child, which came on on the fifth day after a very radical amygdalotomy, and ceased spontaneously; the other in an adult, the hæmorrhage being finally checked by continuous pressure. A somewhat careful review of the literature of the subject shows that a large majority of cases in which this accident has happened were those of adults, and that in most of them it followed the use of the bistoury. According to Mackenzie, four cases have been reported by Velpeau in which the internal carotid artery was laid open during removal of a tonsil with the bistoury. Billroth † seems to have wounded the ascending pharyngeal artery while operating with a bistoury. Other cases are on record of hæmorrhage from a large tonsilar artery, from injury to one of the faucial pillars, and from wounding the venous plexus at the lower border of the tonsil. It seems to me, however, that this risk of the operation in children has been overestimated. Yet it must be admitted that the danger of hæmorrhage is the chief objection to excision of the tonsils.

Probably few of us use the amygdalotome without the suggestion of its possibility. Among arguments in opposition to removal of the tonsils in general, which are sometimes urged, may be mentioned the statement that the voice is thereby weakened and the sexual function impaired. Observations to the contrary are now too numerous to leave any room for question on these points. There has been a superstition that enlarged tonsils are a protection against infective disease, but it is now pretty generally agreed that they are a direct encouragement to infection, especially diphtheritic, while the subject of this hypertrophy is constantly liable to attacks of amygdalitis and peri-amygdalitis, extremely painful and often disabling. It is hardly probable that "suicidal mania," as a result of amygdalotomy, will be used as an objection to the operation by those who present an adverse plea, but it may be of interest to notice incidentally that four cases of suicide after amygdalotomy have been reported by Rubio.* In addition to hæmorrhage, which, if not serious, may be very troublesome and a source of agitation to the patient, it is not uncommon to meet with other obstacles to a cutting operation. We frequently see broad, flat tonsils, deeply seated between the pillars, the anterior pillar often overlapping the gland and being firmly adherent to it. The use of the guillotine here is difficult, if not impossible. Finally, in some cases the patient's aversion to the knife can not be overcome.

Under such circumstances the galvano-cautery, said to have been introduced into surgery by Middeldorpf, offers a satisfactory alternative. Two methods of its application to the treatment of enlarged tonsils have been found useful—by cautery-puncture, as practiced by Voltolini, and by the galvano-caustic snare. In the former method a fine cautery-point is passed deeply into a crypt of the enlarged gland, if we have to deal with a condition of simple hypertrophy, or in the case of a hyperplastic tonsil, where the crypts are more or less obliterated, it may be forced directly into the substance of the tonsil. Not more than three independent lacunæ should be cauterized at one sitting. The pain of the operation is usually not severe, and inflammatory reaction is seldom excessive. By the fourth or fifth day all local disturbance will have subsided, the eschar may be partially detached, and the operation may be repeated. In this way the largest tonsils may be destroyed in from five to ten sittings, according to the tolerance of the patient. At the International Laryngological Congress, held in Milan in 1880, Krishaber stated that he had been obliged to use the thermo-cautery of Paquelin in one case no less than fourteen times.† Such an experience with the galvano-cautery would be very exceptional. Still he maintained that patients submitted to burning more readily than to cutting. In one of my cases, that of a boy not ten years old and of highly nervous temperament, the use of the galvano-cautery had to be abandoned after the second operation, not, as the patient admitted, on account of pain, but because he could not overcome his repugnance to the idea of being burned. In this case treatment has been continued by means of applications of London paste, and the patient himself states that it causes greater and more lasting pain than the galvano-cautery did. Many patients complain of the disagreeable odor of the burning tissues more than of pain. The discomforts of the operation and of the succeeding days may be reduced to a minimum by preliminary applications of cocaine in ten-per-cent. solution, and the subsequent use of carbolized alkaline gargles and, if necessary, further applications of cocaine.

Galvano-caustic écrasement is much more rapid and naturally more painful than cautery-puncture. A single operation by the former accomplishes the results of many weeks by the latter. Moreover, the amount of tissue actually removed by the snare does not represent the total effect of the operation, since the parts left behind are cauterized to a considerable depth. The galvano-caustic snare is opposed by some writers, among them Schech,* who maintains that its use involves too much trouble, that it is difficult to secure an even cut surface, and that it does not exclude the danger of hæmorrhage. The first objection may perhaps be admitted; the second and third are groundless. A single case of hæmorrhage after the use of the galvano-caustic snare has been reported by Capart.† The bleeding, which was rather alarming, occurred in a child, eight years of age, five days after the operation, and was undoubtedly provoked by immoderate use of the voice.

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* "Trans. of the Am. Laryngol. Assoc," 1881, p. 136.

† J. Walker Downie, "Edinb. Med. Jour.," August, 1886, p. 116.

* R. B. Taylor, "On Amygdalotomy and Suicide," "Med. Times and Gaz.," ii, 1881, p. 758.

† "Trans. of the Int. Laryngol. Congr.," Milan, 1880.

Two precautions are essential. The current should be employed intermittingly, and traction should be made upon the loop only during the passage of the current. In this way hæmorrhage may be entirely avoided, and the danger of damaging the pillars of the fauces and neighboring parts by diffusion of heat may be prevented. Should any unevenness of surface remain, it is a very simple matter to remove it by subsequent cauterizations. Inclusion of the greater part of the tonsil within the loop may sometimes be effected by dragging it from its bed by means of a volsella or a mouse-toothed forceps, or by the use of a transfixion needle. In several cases pain has been almost wholly abolished by injecting into the parenchyma of the tonsil, before applying the snare, six or eight minims of a ten-per-cent. solution of cocaine. At best this method is rather disagreeable, and is apt to be followed by considerable local disturbance. Its only advantage over galvano-puncture is that of being less tedious. The choice of a battery is of some importance. What is known as the "C & C" Electric Motor Battery has given me excellent satisfaction. For the snare, No. 30 platinum wire has been found to be more readily heated, more easily manipulated, and to cut the tissues with greater facility.

The use of the galvano-cautery in very young children will probably often be found impracticable, except under general anæsthesia. Only two of my own subjects were under the age of ten years, and one of these was unmanageable. It is not my intention, therefore, to recommend the galvano-cautery as a universal substitute for excision of the tonsils. In the vast majority of cases a cutting operation is both possible and preferable. Galvano-cautery should be reserved for a comparatively small proportion of cases, including those in which the hæmorrhagic diathesis is present or suspected, those in which vascular anomalies may be recognized, those in which anatomical conditions prevent a sufficiently complete excision of the organ, and those in which the use of a knife is positively declined. I am strongly disposed to add that this method should be chosen for all adult patients. At any rate, as Semon has suggested, a patient above the age of twenty should be allowed his option after a fair presentation of the risks and advantages of the two methods.

20 West Thirty-first Street.

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* "Diseases of the Mouth, Throat, and Nose." Transl. by R. H. Blaikie, 1886, p. 130.

† "Trans. du congrès internat. de laryngologie," Milan, Sept., 1881, p. 96.

SUPPORT IN THE
TREATMENT OF OVARIES AND TUBES.

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A few weeks ago there came to the Demilt Dispensary a large, finely formed German woman, twenty-eight years of age, married, and the mother of two children. She complained of pelvic pain, and in the course of the usual routine questions I asked her when she had last menstruated. She replied: "I had an operation in ——— Hospital two years ago, and I have never had my blood since." Then she broke out in a despairing cry: "I did not know that I would have no more children, and that I would never more have my blood." Trying to defend the absent, I suggested that she had had a good deal of pain before the operation, that she had been relieved of this, etc. She turned quite fiercely upon me. "What is pain?" said she; "I might better have children, though I die."

This case requires no comment. Examination showed the atrophied uterus and the atrophied, contracted vaginal vault of old age. One immediately felt sorry for her. As she had suggested, too, a good deal of parametrial tenderness was present. It may be urged that this woman had already been sterilized previous to the operation by her disease. While this might have been true, no one could positively have stated it as a fact. The hope of maternity remained, and she was protected from the scorn which her husband subsequently heaped upon her. The sterile wife seldom escapes unhappiness. I have under treatment one threatened with desertion unless she soon bears a child. Besides the protection given by the hope of maternity, this woman had, too, the comfort of her menstrual flow. The stature of the woman seems to be dwarfed in order that she may have material to give away. To keep her system in order, to feel well, she must sustain her periodic loss. Contrary to Mr. Tait's experience, women, as a rule, dread the menopause, and many resort to electric treatment and other arts in order to keep it away. The accumulation of fat after the menopause, and earlier in women who menstruate scantily, also points to this surplus of nutritive force. The longer life of woman, and her superior endurance of loss of blood, cold, and fatigue, too, might be cited. A gifted, cultivated woman said to me once: "To flow freely is my idea of bliss." She was highly plethoric, and her menstruation lasted but a day. To deprive the woman of menstrual ability by operation is almost as serious a matter as the sterility counted its most important result. Mutilating operations, such as the removal of ovaries and tubes, can scarcely be justified except for conditions which endanger life. It can certainly be said that conservative treatment merits serious thought. But little has been done for the uterine appendages in this direction. The "Index Medicus" each month has a long list of communications upon diseases of the uterus, and another upon displacements of the uterus, but upon displacements of the uterine appendages it has nothing at all, communications upon the pathology and the displacements of these organs being so infrequent as to be included under the heading of their excision. The meagerness of the recommendations given in text-books is known to all. In regard to chronic oophoritis Dr. Thomas says: "The day will probably come when our treatment will be satisfactory and effective, but it has not yet done so, by any means." Dr. Edis says: "Chronic oophoritis is a very intractable malady." Mr. Tait says: "I assert that it is absolutely incurable in by far the greater number of cases."

On the other hand, the support and protection of diseased parts is a cardinal principle of surgical procedure. Applied to hyperæsthetic, congested, and inflamed ovaries, it relieves suffering and favors cure. The beneficial influence of pregnancy in this condition is admitted by all. Absence of the periodic menstrual congestion is given as its explanation; but is this reasoning defensible? Women with chronic oophoritis are commonly more comfortable when menstruating than at any other time. During pregnancy there may be absence of periodic congestion, but in its place there is persistent hyperæmia with absence of periodic relief. The development of the corpus luteum of pregnancy can be accounted for only by increased nutritive activity and increased blood-supply. If, then, the ovary is not quiescent, but partakes largely of the increased vascularity of the uterus during pregnancy, and if, in addition, it loses the advantage of the menstrual discharge, how does it gain during this period? Manifestly by a change in position. During the early months, when the ovaries are pressed upon by the enlarging uterus, the woman commonly suffers from nausea and an aggravation of pelvic pain. She experiences the relief of her condition only later, when, rising out of the pelvis, the uterus carries the ovaries with it, and relieves them from their bony environment. If elevated artificially, the same relief can be obtained in the non-pregnant state.

Methods of obtaining Support.—In Dr. Parvin's edition of Professor Winckel's work a suitable pessary is recommended, but, while ninety-seven pages are given to dislocations of the uterus, the pessary suitable for the support of ovaries is not described. Dr. Thomas also says that where diseased ovaries are prolapsed, they should be supported upon a pessary; but he, also, does not particularize in regard to it. Dr. C. H. May, in his admirable compend, states that Thomas's bulb pessary, Emmet's, Noeggerath's, and others may be used. Mr. Tait has a wedge pessary, or one with a broad posterior bar. To use an old simile, one might as well try to poise a piece of ice on the finger-tips as to try to hold up an ovary with one of these hard-rubber rings. Support is not a failure because unobtainable by such means. The dispensary connected with the Woman's College has an attendance of from thirty to fifty gynæcological patients daily. Among these cases there are many of ovarian displacement, hyperæsthesia, and actual disease. Such cases are not there, however, considered less hopeful nor more difficult to handle than others; and for many years support has been the routine treatment, the cotton tampon being used. This is commonly applied in the knee-chest position. Personally I prefer the Sims position, and I use three or four small pads instead of one larger one. With the Sims speculum retracting the perinæum, I carry in the first, using the finger instead of the dressing forceps for this purpose. Then, with the finger retaining the pad, I withdraw the speculum, assure myself that the pad is well up in place, reintroduce the blade in front of it, and pass in another to one side or the other, as required. Having packed all into a secure position, I last place one in front and against the pubes to give leverage and support. Where the ovary is not adherent, immediate relief is, as a rule, obtained. Recently, in a case of this kind, after the application of the tampon, I asked: "Do you still feel pain?" "A little," the patient replied. Placing her again upon the table, it was found that the painful ovary had not been completely held up, and another pledget of cotton, passed along the side of the others so as to lift it, gave relief. Such a tampon will stay in place twenty-four hours. After some weeks the tenderness commonly diminishes, and the pain during the intervals is not so great. Finally, at the end of some months, the treatment can be suspended. Operation upon a fissured cervix often hastens the cure.

As a further means of support for ovaries I have recently used the old inflated ring pessary ("Med. Record," Jan. 15, 1887). In my previous paper I stated some objections to this pessary as manufactured here. Accidentally, or with intention, the central aperture is made smaller as the total diameter is increased. In Nos. 1 and 2 there is a hole which easily accommodates the cervix. In Nos. 3 and 4 it is smaller, but not so diminished as to afford a serious obstacle to use. In Nos. 5 to 7, on the contrary, the hole is absurdly small. Professor Winckel makes a similar complaint of this pessary in Dr. Parvin's edition of his book. I am pleased to announce that Stohlmann, Pfarre, & Co., of East Twenty-eighth Street, have modified these larger sizes according to my suggestion.

It is now one year since the paper referred to was written, and two years since I commenced using this ring. Additional experience but confirms my belief in its value. In the case of the fissured cervix it acts as a splint. A colleague informs me that recently a cervical catarrh which would have lasted for months under the usual local applications disappeared in three weeks while the patient was wearing this ring. Another tells me that it was prescribed as a preparation for operation in the case of a deeply fissured cervix, with catarrh, and that under its use the separated parts had spontaneously united up to the external os.

The most brilliant results of this pessary are, however, obtained in the treatment of prolapsed ovaries. Several typical cases can be referred to.

Case I.—A woman of twenty-five years came to the Demilt Dispensary announcing that she had ovarian disease. She had had many physicians, and had been well instructed in regard to her case. She had suffered from migraine since puberty, and had married upon advice, in the hope that maternity would effect a cure. At the time of my first observation she had been married for three years, pregnancy had not occurred, and her distress had been aggravated rather than relieved. She had constant hypogastric and inguinal pain. Intercourse was unbearable, excepting just after the menstrual period. She found it difficult to endure the jolting of the cars and painful to walk, especially if jarred unexpectedly by stepping upon a stone. Menstruation was profuse, lasting a week, and headaches were almost constant, with special aggravations just before the flow. Examination showed laterally two large sensitive ovaries, and posteriorly a smaller mass continuous with the left tube. The ovaries were movable, but the posterior mass adhered. The uterus was in place. A diagnosis of chronic oophoritis was made. The tube was not enlarged, but simply displaced and adherent. This patient had recently been under the care of a distinguished gynæcologist, visiting him at his office with considerable regularity during nine months. It would be but fair to state that she had had exceptional opportunities for obtaining relief. Hot injections were ordered, although the woman stated that they had already been persistently used. On September 1st an air-ring was inserted. For the first few days it gave pain in the left side, but from the first some relief of headache was obtained.

September 10th.—She stated that she was almost comfortable.

October 29th.—She stated that at her last period she had had one hour of her old inguinal pain, and headache for one day, but that otherwise she had felt well. Her mother noticed that she did not "grumble so much." At the end of three months she menstruated only two or three days, and her headaches had been reduced to a few hours just before the flow. Distress upon intercourse had ceased. Examination showed the ovaries still easily reached, but much less sensitive; the posterior mass still adhered, and the tube had elongated so as to arch over the ring. At the present time the patient feels perfectly well, can do her housework, and can go without the ring for a week without any return of her former symptoms. She no longer wears it constantly, but keeps one on hand and inserts it when she thinks a headache is threatened. Though anxious for children, her sterility continues. She is, however, happier than the woman in the case of operation cited.

Case II is that of an unmarried woman of twenty-five years who, one year ago, while lifting a mattress, was seized with pain which for three days kept her in bed. Since that time she had suffered excessively with dysmenorrhœa and inguinal pain. She had emaciated, her appetite had been lost, and from a happy, rosy-cheeked girl she had become a pale, weary, hollow-eyed woman. Examination showed a perfect hymen, and with difficulty a retroflexed uterus and two enlarged, prolapsed ovaries were made out. Here, too, hot injections were used, and after a time pads, which always made her temporarily comfortable. They could only be worn a day, however, and during the intervals between their application all of her pains returned, and she was becoming discouraged, when recently, after three months' preparatory treatment, a No. 3 air-pessary was inserted. The relief was immediate, and with it in position she has menstruated for the first time without pain. The uterus is still retroflexed, the fundus lying upon the posterior bar, but sufficiently elevated, so that a free exit is secured. Hard-rubber retroflexion rings were tried several times in this case, but the posterior bar always took its position in the angle of the flexion, her sufferings were increased, and inflammatory action threatened.

While the history is not yet complete, I give this case because it is the first case of an unmarried woman in which I have used this ring. Two other similar cases might now be given. In all three the hymen was perfect, and the theory of masturbation as a cause of the retroflexion could not be entertained. All are working women, and it is believed that treatment which restores health will be in itself less likely to induce this practice than a continuation of their disease. In treating these unmarried women I am particularly careful to be business-like—to not unnecessarily prolong an examination or the manipulation necessary for treatment, and to discontinue douches and home attention so soon as possible. An operating-table should, in treatment, be preferred to a chair or bed, because not associated with the ordinary routine of life.

These two cases also fairly well represent two classes of ovarian prolapse—Case I, that in which the uterus holds its position, the prolapse being congenital or due to the disease *per se;* and the second, that induced by uterine dislocation. In both, support is the essential element in treatment, although in both, hot water, iodine, and glycerin also were used. I am able to present also a third case representing the adherent ovary. Here the problem is more difficult and a general rule can not be given.

Case III.—A woman, forty-two years of age, unmarried, had ceased to menstruate one year previously. She presented herself in February, 1886, with a pelvic abscess; temperature, 102·5 F°. The sac was toward the median line, upon the left side. It discharged through the rectum, refilling and emptying several times during the winter and spring. When the abscess was absent, a sensitive adherent ovary occupied its place. I supposed that the abscess was connected with the ovary in some way. The condition had probably existed for a long time. With the hope of obliterating the abscess cavity, on August 31st an air-ring was inserted. Even a No. 2 projected from the vulva, the contraction and infiltration were so great. No marked increase of pain occurred, and the ring continued at intervals to be borne. The hot-water douche also was persistently used. On October 5th the ovary was found slightly movable. On November 16th it adhered only at one side, and could be rotated through a distance of half an inch. The further entry reads as follows: "The pessary also rises an inch higher in the pelvis than on its first insertion, the patient walks better, has less pain, and professes herself improved. The abscess has not refilled."

Salpingitis.—Thus far my recommendation of support has been in harmony with the teachings of the books, differing from these only in the method employed and in the high estimate which I place upon it. In recommending the extension of this support to prolapsed and catarrhal tubes I, however, realize that I am advancing a new procedure, and that results only can justify me. The problem is more complicated, too, as salpingitis is commonly associated with peritonitis in either its acute or chronic form. Will this congested adherent mass brook interference? In the acute stage it certainly will not. Where there is elevation of temperature, and yet the symptoms do not demand operation, rest, opium, and antiphlogistic treatment, according to the indications, must be used. Complete resolution may result. Martin has seen pregnancy after such an attack in some cases. In others, however, the inflamed broad ligament rolls backward so that the fimbriated end of the tube lies in Douglas's pouch, where a matting of lymph or inflammatory adhesions ultimately binds it down. It remains there, discharging into the peritoneal cavity in some cases, and in others, where the abdominal opening is closed, never fully emptying at all, but having a periodic discharge through the uterus about the menstrual period, somewhat after the manner of the siphonized underground springs figured in the geographies of our youth. More or less decomposition of the secretion occurs, and the discharge is said to smell bad. Endometritis, and even vaginitis, may secondarily result.

In a young girl, treated for vaginitis of several years' standing, it was found impossible to permanently heal an erosion upon the posterior aspect of the external os. It occurred to me that this location was one which would be covered by discharges from above, and examination showed what appeared to be a boggy tube upon the right side. On further questioning, I learned that, several years previously, there had been pain in this location. The excoriation referred to covers the cervix and invades the vagina so soon as topical applications are given up. There is now no pain, menorrhagia, or dysmenorrhœa; only this discharge to point to the original disease. The tube is, however, in this case at the side of the uterus; it is low, but not seriously prolapsed. When the delicate fimbriated extremity occupies Douglas's *cul de-sac*, it is with each motion of the body triturated, one might say, between the uterus and the rectum, and pain can scarcely fail to result. For this condition there appears to be no spontaneous cure.

In the cases to be referred to it had probably existed for years. It is for this class of cases that support is recommended; not for acute cases, and not for cases where resolution and cicatrization have left the tube in place with the thickened, shortened broad ligament which appears to result from this disease. It is not recommended, then, in new cases, nor in very old cases, but in a collection of intermediate cases whose number is only too large. By support in these cases I hope to lift the whole mass beyond the point of friction between the uterus and rectum, to facilitate the discharge of the contents of the tube, and, finally, to forcibly break the adhesions which confine it. In this treatment the equable pressure of the ring has been more effective and better borne than the tampon of cotton pads. I have treated a considerable number of dispensary cases. Relief of pain is usual. The most surprising result has been, however, a more or less profuse discharge throughout one or two days after the application of the ring. This discharge is irritating in some cases. Subsequently, even the ordinary discharge complained of has commonly ceased. With relief of her symptoms, the dispensary patient stays away, so that the ultimate condition of many otherwise interesting cases can not be known. I will therefore refer only to three cases in my private practice where careful records were made.

CASE IV.—A woman, thirty-four years of age, came to me in February of the present year. She was married, had had four children, two miscarriages, and one premature birth. The last pregnancy, three years previously, had resulted in a living child; the one before, in premature birth at eight months, and the miscarriages had preceded this. After the birth of the eight-months child she was very sick—had fever and convulsions, and was not expected to live. Both then and at the subsequent delivery the placenta was taken away in pieces, and the patient never had felt well since. She complained of sacral and inguinal pain, headache, irritability of disposition, dizziness, and defective sight. She could not walk. The reason was obscure, but appeared to be but an aggravation of her usual pains. She menstruated regularly, but for ten days afterward had colicky pains, and both before and after menstruation suffered with leucorrhœa of a yellow tinge. For one week midway between the periods she was somewhat relieved. Examination showed a large anteverted uterus and the cervix fissured deeply upon the left side; no erosions of the os. Posterior to the uterus was a marked degree of the bogginess and sensitiveness formerly associated with cellulitis. Nothing was mapped out at that time on account of the tenderness, but afterward the right tube was found prolapsed and enlarged. Hot water, iodine, and glycerin were persistently used for over a month without improvement. April 7th an air-ring was inserted. April 10th the patient returned to say that a milky discharge was coming away from her like water, but that otherwise she felt well. There was no vaginal or vulvar congestion to account for the discharge, which was perfectly bland. April 17th the discharge had ceased.

May 25th.—Examination showed the tube freely movable and the general sensitiveness gone. With the ring in position the patient felt comfortable, and could walk as well as any one. When without the ring her old backache, and with the pain her old irritability of temper, returned. Subsequently she was able to discontinue the pessary. The discharge and pain about the menstrual periods had ceased.

CASE V.—A woman, forty years of age, was the mother of several children. She complained of sacral pain, headaches, and general irritability, with a leucorrhœal discharge. She had not walked any distance for years. Attempts at walking would be followed by a wretched irritable condition, which would persist for days. Previous to menstruation her distress was aggravated so that two weeks out of the month were spent upon the sofa or bed. Examination showed the perinæum partially divided and the cervix fissured with some erosion about the os. The uterus was in position, but the parametrial tenderness was so great as almost to forbid examination. With some difficulty a tube was made out, not larger around than a slate-pencil, but with its distal extremity in the *cul-de-sac*, the bottom of which was thickened and contracted so as to draw upon the cervix and hold it firmly toward the back. The uterus was not freely movable, apparently from this cause. The tissues were of a normal feel anteriorly and upon the other side. From the first, support was aimed at in this case, but for two months all mechanical interference but aggravated the distress, and the treatment was restricted to the prolonged hot douche taken twice a day. During the third month iodine and cotton packing were used. At the commencement of the fourth month a No. 5 air-ring, partially inflated, was inserted. The first day there was a dull ache in the back, but afterward it gave no pain, and was worn constantly for two months. With its help the patient passed through a menstrual period without premonitory disturbances for the first time in years, and was enabled to walk moderate distances without discomfort or fatigue. Examination showed the tube at the side of the uterus in an approximately normal position and the tenderness gone. The patient continued well, and shortly afterward discontinued the constant wearing of the ring.

CASE VI.—A woman, twenty-five years of age, was confined with her first child in June, 1886; had fever, and was quite sick. In November she came to me for menorrhagia. On examination, the uterus was found low and retroverted. The right tube also was sacculated and tensely distended. There was no dislocation of the tube, and no pain. The uterus was supported with an air-ring, and hot injections were used. Several weeks later the patient suffered with chilly sensations for several days, but still had no pelvic pain. The treatment was continued. Considerable leucorrhœal discharge was complained of during this period. In June of the present year the discharge had ceased, the patient menstruated only three days, and felt perfectly well. She had not worn the ring in several months. Examination showed, in the place of the sacculated, distended tube, a shortened and thickened broad ligament, and deviation of the uterus toward that side. The use of the ring in this case was simply prophylactic, in order to relieve the tension on the diseased part.

In employing the inflated ring the patient removes and replaces it herself, and, where there is no pain when lying, it is left out at night. Used in this way, it never becomes offensive in any way, and even very fastidious women have been found willing to perform the manipulations required. In selecting this pessary, the size should be large enough, so that the front bar shall be depressed by the pubic bone. The back bar then rises to the posterior *cul-de-sac*, and never takes any other position. Partial inflation is, as a rule, preferred. Having inserted it, the patient takes the knee-chest position, when it spontaneously rises to its proper place. The No. 5 is the size most commonly useful, although even the largest size may be sometimes required. In ordering Nos. 5 and 7, it is necessary to specify as to whether the old or the new style is desired.

In examining for salpingitis, I place the patient in the Sims position, and use two fingers, or even the whole hand to the thumb. It must be remembered that the exploration of the pelvis under these circumstances is a much more serious matter for the patient than where the ovaries only are concerned. In one very instructive case the patient, who had been several times utilized for teaching purposes, said to me: "When I first came I had only my blood too often, but now I also have pain." One examination was in this case, out of the usual time, followed by the discharge of clots and expulsive pains. In another case, also, pain and hæmorrhage of a week's duration occurred.

For the detection of enlarged tubes the mucous membrane of the vagina should be moved with the finger backward and forward over the mass just as the skin is moved over a tumor in the palpation of external parts. The object found must be traced to the uterus in order to make the diagnosis sure. The sigmoid flexure is often found contracted so as tc closely simulate the sausage-like enlargement of a tube. Again, small scybala in the sigmoid flexure will be mistaken for a nodulated, fimbriated expanse. The sigmoid flexure will of course be found continuous with the rectum, and the scybala can be brought down. But here, too, caution is required, as where the nodules are connected with the tube such manipulations may do harm. Having arrived at a diagnosis, I, as a rule, abstain from further deep manipulations, as superficial examination will afterward detect change in the relation of the parts. I do not use the sound or make intra-uterine applications in such cases.

The routine treatment consists, as a rule, of hot injections every two hours where the tenderness is great. Subsequently, with the daily douche iodine may be applied to the vault of the vagina and glycerin tampons lightly packed against it, and still later an inflated ring may be used. The object of the preparatory treatment is mainly to familiarize the physician with the peculiarities of the case. Until the ring has been inserted, in my experience but little subjective relief is obtained.

To summarize, diseased uterine appendages may be rationally treated by support. This support is best applied by the cotton tampon or the inflated ring. In cases of ovarian hyperæsthesia and prolapse, support relieves suffering and promotes cure. In cases of prolapsed and catarrhal tubes, pain has been diminished, adhesions have been broken up, the tube has returned to a lateral position, and the discharge from it has ceased. Shortening of the broad ligament has followed resolution in several cases. From three to six months is, as a rule, required for the treatment.

344 East Forty-second Street, *August 31, 1887.*

AFFECTIONS OF THE CRICO-ARYTENOID ARTICULATION.*

By GEORGE W. MAJOR, M.D.,
MONTREAL.

The crico-arytenoid articulation, from a mechanical point of view, is a gliding surface which allows of rather than regulates movements. Friction between the cartilages is prevented by the interposition of a bursa mucosa instead of a synovial bursa, as in other joints. It is subject to much the same diseases as joints elsewhere, and, in my experience, is liable to be relatively affected more frequently. In fact, in my investigations, I have found that the crico-arytenoid articulation is prone to take on unhealthy action from comparatively trifling causes.

For several years my attention has been directed to abnormal states of this joint, and has resulted in the gradual accumulation of an amount of clinical material, the publication of a part of which may possibly prove of some practical value.

It does not come within the scope of the present paper to consider at any length affections of the joint arising from constitutional states, such as tuberculosis or syphilis.

In laryngeal phthisis the arytenoid region is frequently the first invaded, and even in favorable cases it is seldom that some impairment of movement does not result. In phthisis, vocal defect is usually attributed to myopathic causes or to tumefaction of the soft parts, whereby the vocal cords are either not properly tensed or poorly approximated. Independently of the destructive changes which the cartilage may undergo in phthisis, I am disposed to think that the altered state of the articular surfaces (the result of prolonged inflammation) plays a not altogether unimportant part. Tubercular deposits undoubtedly take place, and, if absorbed, must leave behind a quantity of calcareous material especially liable to impair articular integrity.

Syphilis frequently, especially when advanced, affects the crico-arytenoid joint and produces a true ankylosis.

The principal affections of the crico-arytenoid articulation to which I shall allude are sprain, dislocation, direct local injury, acute inflammation, and ankylosis.

Sprain may result from the sudden closure of the larynx when, in the act of swallowing, any solid or liquid has passed, or threatens to pass, into the laryngeal area. This accident may occur when there is lowered sensibility, as, for example, in the morning on rising. The throat of a person who breathes through the mouth is always dry on awaking, and the sensibility consequently diminished. In such an individual it is not difficult to understand how a combination of circumstances may give rise to sprain.

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* Read before the American Laryngological Association at its ninth annual congress.

The action of the larynx is reflex, and, under the conditions alluded to, the muscular movement is sudden and spasmodic.

An unusual strain is thrown upon the muscles and a sprain is the result.

Case I.—Mrs. A., aged forty-five, consulted me on April 22, 1887, for dysphagia. She is a strong and healthy woman and has not suffered from rheumatism or any constitutional disease. On external examination, digital pressure revealed tenderness over the left arytenoid region. A laryngeal examination showed some redness of the joint and slight swelling. The approximation of the vocal cords is perfect and the voice is not impaired. There is extensive hypertrophic rhinitis, and nasal respiration is proportionately impeded. Six weeks before visiting me, she arose in the morning and took a drink of milk, some of which " went astray." She felt a sudden pain in the region indicated, and has since suffered more or less pain and difficulty in swallowing. She breathes through her mouth at night, and as a consequence finds her throat dry in the morning.

Applications over the arytenoid region of liquor epispasticus and the use of laryngeal sprays of astringent character have reduced the swelling, redness, and sensitiveness of the joint, and swallowing has improved *pari passu.*

Dislocation of the arytenoid cartilage is of extremely rare occurrence. Several instances are reported of dislocations the result of cicatricial contractions, but I am not aware of any as the result of direct violence.

Case II.—M. G., aged forty, came under observation on June 25, 1883. She complained of inability to swallow solids, and for two months subsisted on milk, milk and soda-water, and the yolk of an egg beaten up with milk. She is of an extremely nervous and fretful disposition, and at first I was inclined to regard her case as of an hysterical nature, and in fact was so indiscreet as to so express myself, to her intense disgust.

She gave the following history: Two months previously her son, a big, strong boy, while indulging in horse-play, undertook to demonstrate an improved method of garroting. He seized her larynx between the thumb and fingers of the right hand, and, not realizing his strength, produced such local injuries as led to the conditions presently to be described. The pain at the moment was severe and continued for some days unabated. Swallowing was difficult, and gradually aggravated. On external examination, tenderness was evinced over the right arytenoid region, the situation occupied by the young gentleman's thumb. There was glandular swelling and pain extending to the right ear, and stiffness of the muscles of the right jaw. The right side of the neck was sufficiently swollen, making all due allowance for excess of development of the right side, to attract attention. With the laryngoscope the right arytenoid was seen to be swollen, and its apex was inclined outward and backward. There was swelling of the pharyngeal wall on the right side. On laryngeal movement, the following points were observed: On full inspiration the right arytenoid cartilage was free from contact with the pharyngeal wall, though the sinus pyriformis was smaller than on the left side. On attempting phonation, the apex of the arytenoid came in contact with the pharynx, and in moving toward the median line it not only produced a well-marked line of depression on the pharynx, but its point was also bent outward. When nearing the center point of phonation the arytenoid was released suddenly, with a decided and audible clicking sound. There was a perceptible hesitation in the process of phonation, allowing ample opportunity to observe the movement. The different conformation of the sides was apparent.

The voice was unimpaired, though speaking or reading was both fatiguing and painful.

The patient was under my care for four months, during which time gradual improvement occurred.

In this case there certainly was swelling of the pharynx, but there was also displacement of the arytenoid cartilage. As the cords approached in phonation, the cartilage gradually recovered its proper position.

The partial dislocation at one situation and total disappearance at another is not altogether inexplicable if we consider the character of the crico-arytenoid joint and its muscular attachments.

Displacement was probably the result of pressure exerted on the cricoid cartilage, whereby its diameter was somewhat altered.

The treatment consisted in the use of soothing inhalations, hot fomentations, and iodide of potassium. When some improvement had been achieved, laryngeal sprays were employed, as also the liniment of iodide of potassium with soap. The stiffness of the muscles, especially those of the jaw, was treated by a skilled masseuse with success.

Case III.—W. G., aged fifty, five years ago struck his neck against a clothes-line in the dark. Disease of the cricoid cartilage resulted, and impending suffocation demanded tracheotomy. I assisted a medical friend in the performance of it. The tube is still worn, as occasional inflammatory attacks of the larynx render the precaution necessary.

The left crico-arytenoid joint is dislocated backward and is fixed at a point midway between extreme abduction and the cadaveric position. The vocal cord, which is occasionally visible, is quite motionless on attempted phonation or full inspiration. A rough but useful voice is produced by the right vocal cord, assisted by the ventricular band of the left or impaired side. The left ventricular band may be seen to dispose itself as follows: On attempted phonation, though its anterior and posterior points of attachment do not advance, its free margin is thrown inward, forming a convex belly which meets the vocal cord of the healthy side.

This manner of forming voice is not usual in the case of a ventricular band, though of comparatively frequent occurrence in the compensating action of a vocal cord. A healthy vocal cord may often be observed to protrude itself beyond the median line to meet its fellow, the freedom of whose movements is from some cause or other interfered with. The case serves as an example of dislocation the result of cicatricial adhesions.

Injury of the crico-arytenoid joint the result of traumatism must be comparatively common, though, from the undecided character of the symptoms, it no doubt often escapes detection.

Case IV.—Miss G. came under my care on October 23, 1886, complaining of difficult deglutition. She was liable to sudden attacks of suffocation caused by the entrance of food into the larynx. Two years previously, while swallowing an oyster, a portion of shell stuck in the throat. The pain at the time was intense and lasted some days, during which the speaking voice was impaired and swallowing of anything but bland liquids was rendered impossible. The treatment adopted at the time was sedative inhalations. After a week or more the piece of shell was expectorated with some blood after a violent fit of coughing. The throat did not recover completely, and the continuous dread of a recurrence of suffocative paroxysms interfered with her appetite and digestion.

On digital examination, tenderness over the crico-arytenoid region was found to exist, and this was notably increased on pressure. With the laryngoscope the left arytenoid was seen to be larger than the right and somewhat redder. On phonation, the joint did not rotate properly nor glide toward the center. There was a decided comparative difference in the movements of the two joints. Local applications of a twenty-per-cent. solution of lactic acid applied daily gave relief, and a permanent cure after two months' treatment.

Acute inflammation of the crico-arytenoid joint is met with in rheumatic and gouty attacks, in tonsilitis (a disease of rheumatic origin), in measles, scarlet fever, croup, bronchitis, and in many other acute diseases where the air-passage is involved.

It but seldom attains sufficient prominence to call for the attention of an expert, and consequently is not so often recorded as its frequency of occurrence would suggest.

Case V.—In October, 1886, I was consulted by a professor in the medical faculty of McGill University for dysphonia. On examination, I found the left arytenoid slightly swollen and red. At a line corresponding to the contact of the articular surfaces the color was very much intensified. The joint was fixed at full inspiration, and on attempted phonation, inward movement was barely perceptible. There was also external tenderness over the crico-arytenoid region. Rheumatic inflammation of the crico-arytenoid joint was diagnosticated. Further inquiry developed the fact that a week before he had suffered from an attack of acute inflammation of the right wrist and elbow joints.

Case VI.—On the 16th of March last I made a laryngoscopic examination of Master Frederic D., aged two years. I had seen the child on a former occasion at the request of Professor Ross, of McGill University, but did not make an examination, as the child was suffering from an extensive abscess of the neck, and I decided to postpone any attempt until evacuation had taken place.

During an attack of measles of more than usual severity complete aphonia resulted without the slightest embarrassment of respiration. The aphonia developed many days before there were any signs of inflammation of the tissues of the neck.

On laryngoscopic examination, I found the left arytenoid fixed at full inspiration and completely immovable. There was redness about the joint and external tenderness. The larynx was otherwise free from any abnormal appearances.

Case VII.—On April 19, 1887, I was called to see Miss H. It appears that until two days previously she enjoyed her usual good health. After dining she was suddenly seized with suffocative paroxysms. The family physician was summoned, and among other means employed expectorants. Slight improvement followed, for at the time of my visit I found on examination marked swelling and œdema of the left arytenoid joint, and the joint was completely fixed near the median line, I ordered a blister externally and steam inhalations. In the course of two days the œdema had entirely disappeared, leaving the joint red, swollen, and still immovable. Chloride of zinc used as a laryngeal spray, and the continued use of blisters, produced gradual improvement.

This case was one of acute inflammation of the joint, the result of cold. Beyond the local lesion described, the larynx presented no abnormal conditions. Tenderness still persists on external pressure.

Ankylosis is the affection of the crico-arytenoid joint most commonly met with, and may arise from a great variety of causes. Among the causes may be enumerated chondritis or perichondritis, primary or by extension, syphilis, typhoid fever, rheumatism, gout, the exanthems, and catarrhal conditions of the air-passages due to any cause. In my experience the most common cause of ankylosis is rheumatic or catarrhal inflammation of the joint.

I have met with one case only as a sequence of typhoid fever, in which necrosis of the cricoid had occurred, and have seen it many times as the result of syphilis.

Every possible degree of ankylosis may exist, from bare ly perceptible impairment of movement to absolute immobility. The size of the joint may also vary from extreme hypertrophy to actual wasting. The influence an ankylosis is capable of exerting in a given case depends upon the degree of ankylosis, the size of the ankylosed joint, and the situation on the cricoid at which ankylosis has taken place.

Of these three features the most important is of course the point at which ankylosis has been accomplished, as it regulates the all-important functions of respiration and phonation, and the symptoms of ankylosis depend much upon this latter condition. The leading symptoms of ankylosis may be laid down as follows:

If the joint is fixed at full expiration or phonation, the leading feature is embarrassed breathing, and inspiration is interfered with proportionately as the fixation takes place toward the above position. There is here little if any interference with voice production. Swallowing is, as a rule, not difficult, yet there may be a feeling as of the presence of a foreign body. Fortunately, ankylosis does not often take place inward, and this is no doubt obviated by the position assumed by the joint during the greater part of the time. There is usually some enlargement of the joint, but there may be actual wasting. Externally there is usually tenderness felt on pressure. On manipulation, there is generally a sensation conveyed to the fingers as of a decided roughness of the articular surfaces, and not uncommonly a distinct sound is detected, which may be either a distinct friction rub or more of an articular gliding character.

When the joint is fixed more at full inspiration, or midway between full inspiration and expiration, the latter naturally the more usual situation, phonation is interfered with, and not inspiration. Leakage of air, however, takes place here, and the patient easily gets out of breath on any violent exercise or exertion; this is of course aggravated as the ankylosis approaches extreme abduction.

Difficulty of swallowing is also here more pronounced, and the danger of foreign bodies entering the larynx is greater. Tenderness is felt on pressure externally, and on manipulation the characteristic friction-sound is obtained.

Ankylosis at full adduction or abduction seldom occurs, the majority of cases being between the two extremes, and both joints are seldom affected.

It not infrequently happens that the ankylosed joint is smaller than its fellow of the opposite side.

This comparative difference is not necessarily the result of wasting of the tissues about the impaired articulation, but often is due to an hypertrophy of the healthy joint caused by an excess of activity in its work of compensation. This hypertrophy of the joint of the healthy side does not happen if the ankylosed joint is fixed at or near the median line, as then the effort to produce voice is not great, and the amount of work thrown upon the healthy side is proportionately small.

Atrophy of an ankylosed joint may occur as the outcome of want of use, just as happens elsewhere in the body.

The symptoms just now described, especially those relating to respiration and phonation, closely resemble symptoms of paralysis and require to be distinguished.

The differentiation between ankylosis and paralysis is by no means easy, though, generally speaking, quite possible, and is, moreover, a practical point of some importance.

The diagnosis has no important bearing in so far as the present state of the patient is concerned; for what can it matter whether a joint is fixed at any particular point by ankylosis or by paralysis of the muscles?

The prognosis and treatment are certainly very much influenced by the decision of this question.

The history of the case must be considered and all advantage taken of extraneous information. Tenderness on pressure over the crico-arytenoid region, possibly some enlargement of the joint capable of being felt externally, swelling or enlargement as seen by the laryngoscope, the sensation and sound on manipulation—will all assist the diagnosis of ankylosis. The absence of these signs will favor paralysis.

In paralysis we have generally characteristic shapes of the glottis. The general appearance, conformation, and behavior of the larynx when under examination will assist a diagnosis.

Last but not least, difficult deglutition is characteristic of many cases of marked ankylosis; in fact, in all cases of difficult deglutition ankylosis should be looked for.

The treatment of ankylosis is simple, and if persevered with for a sufficient length of time is not unsatisfactory. Frictions of a dilute ointment of biniodide of mercury over the crico-arytenoid region; the local use of astringents or of a weak application of iodine in glycerin; iodide of potassium internally, and galvanism—are all worthy of trial.

Massage, when properly carried out, will also be found useful.

CANCER OF THE LARYNX.*

By H. A. JOHNSON, M. D.,

CHICAGO.

Previous to the invention of the laryngoscope, cancer of the larynx was recognized only after death or in the last stages of the disease. The reason for this seems to be found in the fact that, as a rule, the development of the disease in other organs or in neighboring glands either does not occur, or occurs only as one of the later manifestations.

The two cases observed by Morgagni were diagnosticated only at the post-mortem. The case of Louis (1837) seems to have been under observation for a long time, but the cancerous nature was only determined at the autopsy. This case was thought by Louis to be the first one of cancer of the larynx reported. The report was incomplete, as were also those of cases noted by Trousseau, Bricheteau, Bauchet, Bart, and others. Krishaber states that the first complete description and report of a case of cancer of the larynx seem to have been published by Gibb in 1864. The paucity of the early literature upon the subject, and the comparatively few cases that up to the present time have been recorded, is the only justification I have to offer for the brief and in many respects unsatisfactory notes of the following cases:

Case I.—X., aged sixty-five, male, of good habits. No specific taint. In fair health till one year before consultation, when he began to have some trouble with the throat. Soon afterward he noticed that he had pain in swallowing. The secretion of saliva was excessive and annoying. Early in the fall there began to be dyspnœa and dysphonia, and finally complete aphonia, and for this I was asked by his physician to see him. I found the epiglottis and vestibule of the larynx the seat of a somewhat firm growth, the larger part of the mass on the left of the median line. No enlargements of the lymphatics. The growth had so far encroached upon the glottis as to produce constant difficulty of breathing. After a few unsuccessful attempts to reduce the tumor and relieve the dyspnœa by topical measures, I was called in great haste one night and found the dyspnœa so alarming that I at once performed tracheotomy. This gave him complete relief, and he was for some time able to be up. Deglutition, however, was difficult and painful. Death occurred about three months after the operation.

So far as I could learn, there was nothing to suggest a cause for the trouble, and no hereditary taint. From the fact that the initial symptoms were connected with the act of swallowing and that the respiratory functions were modified subsequently, in connection with the excessive mucous secretion, I infer that its origin was extrinsic or mixed, and that in its progress the internal surfaces of the larynx became involved. No post-mortem was made, but, as the tissue was quite firm and as there was no marked hæmorrhagic tendency, I think it was an epithelioma.

Case II.—X., aged seventy, male. Antecedents good; no cancer in family. Now in feeble health. Dysphagia and marked dyspnœa. I was asked by his physician to see him with reference to the propriety of the operation of tracheotomy. The vestibule of the larynx was filled with a ragged, irregular mass, with only a narrow, tortuous opening, through which a limited amount of air could pass. It seemed to be attached to or to involve more of the left side than the right. There were no manifestations of disease elsewhere. He had suffered much for a long time, and when the question of an operation was suggested to him he quietly asked how long life could be prolonged; and when we said several months he replied: "I hardly feel able to live so long. If it is not wrong, I want to die soon." He declined the operation and died a few days afterward during a paroxysm of dyspnœa. No post-mortem was made.

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* Read before the American Laryngological Association at its ninth annual congress.

I have but little doubt as to the origin. It was intrinsic, and probably from the left side above the vocal cord. There had been no hæmorrhages.

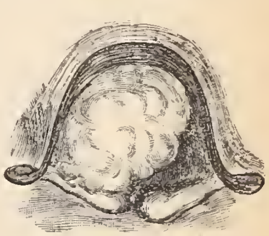
Case III.—K., male, aged sixty-eight. Merchant; no cancer in family. Always in good health till within a year of the time of consultation, when he began to have some irritation of the throat, slight difficulty in swallowing, with cough; soon afterward the voice became hoarse, and when I was asked to see him he was completely aphonic. Examination revealed a somewhat smooth but slightly lobulated mass, springing evidently from the right internal wall above the vocal cords. I could not determine its point of origin more definitely. There was some glottic stenosis, but, as the dyspnœa was not great, efforts were made to reduce the growth by the galvano-cautery. Quite large masses were in this way destroyed, but the reproduction was rapid, and upon the whole no permanent improvement was reached. Deglutition was still fairly well accomplished. After about one month from the commencement of the use of the galvano-cautery the difficulty in breathing became worse, spasms of the respiratory muscles occurred, food and drink passed into the larynx, and on several occasions there seemed to be immediate danger to life. I therefore performed tracheotomy, with relief of all the alarming symptoms. He lived eight months and a few days after the operation. The post-mortem revealed an extensive epithelioma involving the whole of the right half of the larynx, and also the left portion of the supraglottic structures. The microscopic examination left no doubt as to the character of the tumor. The lymphatic glands were not enlarged and were not removed.

Case IV.—X., male, aged forty-five, has had for the last two years a swelling in the right side of the neck, lately getting large, and within the last few months he has had difficulty in speaking and quite recently dyspnœa, especially at night. There is excessive secretion of saliva and mucus of the pharynx, and at the time of examination there is behind and including the sterno-mastoid of the right side a tumor, rounded in shape, firm to the feel, not especially tender upon manipulation. It is about two inches and a half in diameter and seems to be deeply seated; not easily movable. There is also a hard, irregular mass of tissue extending from this tumor downward and inward along the side of the larynx. Examination with the laryngoscope reveals a smooth, reddish tumefaction of the right arytenoid, together with the supraglottic structures, upon the same side. This swelling encroaches upon the glottis so as to produce the dyspnœa and dysphonia. There are no chest symptoms or morbid signs. The surface of the growth is not ulcerated, and I think we must conclude that it is not tubercular. The surgeon in attendance diagnosticated the external tumor as cancer. Tracheotomy was advised for the relief of the dyspnœa, but the patient, who was from a distant point, declined unless the whole tumor could be removed. He returned home, and I have been unable to get any further history of the case.

The interest in it consists chiefly in the fact that the malignant disease in the larynx developed after the appearance of the external cancer. This, I think, is extremely rare, and one can hardly understand how it is accomplished except by extension directly. As there was a line of hardened tissue extending from the original tumor downward and inward along the side of the larynx, I presume this must have been the way by which the larynx became involved. I may remark that I could not get from the patient, who was a very intelligent person, any history of laryngeal trouble prior to the appearance of the external tumor.

Case V.—F., male, aged fifty-four. Office work. Antecedents good. No family history of lung trouble, but his mother had died of cancer. General health good till about one year before consultation, when he began to have some discomfort in the throat, not marked and hardly enough to attract his attention. For the last few months this has been getting worse. He comes to the city for advice. I find that he has great difficulty in swallowing, can get down only liquid food, and this gets into the larynx; as a result he is very much emaciated and his strength is exhausted. Dyspnœa constant. Inspiration more difficult than expiration, but both labored, especially so at night. A few days ago he had a severe hæmorrhage from the larynx. Secretions of bowels and kidneys not abnormal.

Examination of the larynx reveals a dark reddish mass springing from the right side or wall of the larynx above the glottis; of the precise seat, however, I am not quite sure, and, as the tumor bleeds upon the slightest touch with the probe, I dare not attempt to examine it further. It partly fills the vestibule of the larynx and is fairly represented by the accompanying sketch. As a provisional measure I performed tracheotomy. Indeed, it seemed to me that there was danger of his dying at almost any time from the difficulty of breathing. There has been a constant tendency to hæmorrhage, but nothing alarming occurred while under observation. His general health improved, he swallowed better, had a fair appetite, slept comfortably, and after a few weeks returned to his home in a distant State. The question of partial extirpation of the larynx was considered, and when he left, it was with the understanding that in a few weeks he would return for re-examination. Soon after he reached home, however, the hæmorrhages became frequent and copious, and there began to develop swelling and tenderness in the lymphatics along the right side of the neck; none on the left side. In about three months he did return. I found the lymphatics as stated above. The growth evidently involved more of the structure of the larynx. The secretions of mucus were more copious. He had lost his appetite, but swallowed fairly well; breathed easily through the cannula, did not suffer much pain, slept fairly well, and desired to have the whole tumor removed. It seemed to me that the evident complications of the ganglia justified the conclusion that the system was already infected, and I advised a further postponement of an operation. Dr. Ingals, who saw the patient with me, concurred in that opinion. He returned home and rapidly declined, and died about six weeks after the last consultation, and a little more than five months after the tracheotomy. No post-mortem was made, and I am only able to conjecture that the tumor was an encephaloid, and mainly from the fact that it seemed to be so soft and easily broken.



In conclusion, I beg to call attention to the facts:

1. That all of the five patients were males, the youngest forty-five years old.

2. That of the five cases, the growth was evidently from the right side in three cases, from the left side in one case, and in the remaining case probably from the left side.

3. That in only one case was there a history of cancer in the family, in the mother of the patient (Case V).

4. That in one case the disease seemed to be secondary or an extension of an external cancer.

5. That in one case only was there any evidence of infection of the lymphatics from the larynx.

6. That in only one case was there any troublesome hæmorrhage.

7. That in none was there marked pain in the larynx.

8. That in three cases tracheotomy was performed, and the patients' lives were prolonged apparently three, five, and eight months respectively.

NOTE ON A FREQUENT CAUSE OF NASAL HÆMORRHAGE.*

By BEVERLEY ROBINSON, M. D.

Every general practitioner and every specialist meets with cases of epistaxis. Some of these are insignificant so far as prognosis is concerned. They may cause temporary annoyance to the individual, but frequently, when the bleeding is stopped, the patient suffers no ill effects from the loss of blood. Indeed, I have occasionally known young or plethoric persons to have headache relieved by free, spontaneous bleeding from the nose, and to feel more buoyant subsequent to its occurrence.

In general practice, as a sequela of fevers—notably of typhoid, measles, diphtheria—in chronic cardiac affections of different types, in Bright's disease of the kidneys, and in some other diseases that I could mention, profuse nasal hæmorrhage may occur, and at times is serious on account of its weakening effect and its difficulty of arrest.

Such, however, are not the cases of abundant epistaxis that, as specialists, we are likely to encounter. In the majority of instances in which patients consult me, either at my office or at my throat clinic, as to the cause and treatment of recurrent epistaxis, a more or less advanced stage of atrophic rhinitis is evident.

Usually the disease is known to have existed during several years when I am called upon to treat it, and attacks of epistaxis have become so frequent or so profuse as to occasion considerable anxiety. When the history of these patients is carefully taken, it is found that at first the nosebleed was not very abundant or often repeated, and was easily arrested. Then, when ordinary household remedies failed to check it, the family physician was called in and different treatment was employed. An examination of the nose with suitable light and instruments was then occasionally † made, and, when finished, nasal catarrh was stated to exist. Thereupon the nasal douche, or the repeated employment of some medicated powder or salve, was ordered. This treatment usually proves unsuccessful, and after pursuing it for some time the patient finally consults a specialist.

Sometimes the attack of epistaxis is suddenly and alarmingly profuse, either in the beginning or at a later stage of the disease causing it, and plugging the nose is resorted to in the hope of arresting it. One or two posterior plugs are introduced behind the soft palate by means of Bellocq's cannula or an ordinary catheter, carrying a small cord, to which the lint or sponge is attached.

Frequently the nasal fossæ are filled anteriorly with one of these substances, previously immersed in subsulphate of iron. Anterior plugging in the manner described often allows continuous and even abundant oozing alongside the nasal plug.

Posterior and anterior plugging at the same time almost always stop bleeding for the while, but when the plugs are withdrawn after twenty-four to forty-eight hours, it may or may not begin afresh. Examination of these cases after the plugs are removed and the nose thoroughly cleansed usually reveals the probable cause of nasal hæmorrhage in the existence of an erosion of the mucous membrane covering the cartilaginous nasal septum. The loss of tissue is variable as regards extent and depth. Sometimes it is small and superficial. Occasionally it involves a considerable area, or has penetrated the cartilage itself. Under these circumstances ulceration seems a more applicable term for the condition presented than erosion. If bleeding has occurred shortly before the patient is seen, and no covering has been formed by the introduction of some foreign substance of styptic nature, the erosion is bare and exposed, with the exception, perhaps, of a small amount of inspissated blood-clot which partially conceals it. If, however, bleeding has not occurred for several days, and in many instances when a particular point of the eroded surface occasions the hæmorrhage, the larger portion of the erosion is covered with an adherent crust which, if forcibly detached, occasions an immediate recurrence of epistaxis. Now and then I have seen the eroded surface as a mere point in extent, and yet the resultant hæmorrhages have been very considerable. This is true whenever the eroded point is seated directly over an arterial twig upon the septum, and by its corroding action has perforated into and through the arterial wall. The site of this perforation is usually about three quarters of an inch behind the nares, very near the junction of the cartilaginous and bony septum, and at a quarter to one third of an inch above the floor of the nasal fossæ. On one occasion I have had an opportunity to treat a case of profuse epistaxis occurring in a young lady in whom there was no erosion of surface at all, and no local cause whatever of recurrent hæmorrhage from the nose, except the extreme thinness of the pituitary membrane and the abnormal tenuity of the vascular walls. In this case it was presumable for a time that the epistaxes were *vicarious*, and, as later events proved, they were so, at least in part. But that they were not wholly so was proved by their continuance after menstruation, owing to the operative procedure on the uterus, had become tolerably normal. There was nothing in the general condition of the patient satisfactorily to account for the recurrent nasal hæmorrhages, and finally I was obliged to consider them as entirely due to atrophy of the nasal mucous membrane. As a general means for arresting these hæmorrhages when they occur, and also for the purpose of modifying in a continuous manner the vascular supply of the diseased nasal membrane, I now rely upon the internal use of a combination of fluid extract of ergot, with tincture of digitalis. The preparations of these two drugs made use of by me are two to four parts of the former to one part of the latter, and of this mixture I give ten to twenty drops every few hours during several days when I wish to prevent the return of epistaxis; every ten to fifteen minutes, or in one or two large doses immediately, during the continuance of nasal hæmorrhage. I have also had evident good results from antipyrine in capsules, in doses of five, ten, or fifteen grains. Locally, to arrest nasal hæmorrhage, I rely somewhat upon hot water, which, however, often fails me, and principally upon plugging anteriorly one or both nasal passages with strips of sheet-spunk.[*]

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* Read before the American Laryngological Association at its ninth annual congress.

† Often only the most imperfect examination (or none at all) is attempted.

When packed thoroughly in the nose, this substance forms an almost insurmountable barrier to nasal hæmorrhage, and it is only in very rare instances that we shall be called upon to introduce a posterior nasal plug.

In order to perform this operation with the least difficulty, I know of no instrument, particularly in children, quite equal to Steele's pliable probe. It is more serviceable than any ordinary catheter, or than Bosworth's or Bellocq's cannula. It is small enough to go through almost any nasal passage, no matter how impervious; it is sufficiently resistant to take and preserve the curve best adapted to the size and conformation of the parts alongside which it passes. In regard to curative local treatment the following plan has proved, in my experience, most successful: 1. Abandonment of every kind of douche or spray, as a rule, to loosen adherent crusts, if they are present. 2. Reliance for this purpose on the topical use of different kinds of ointments, which, in the course of a few days, soften and imbibe the crusts to that degree that they become readily detached by a moderate effort of blowing the nose. The ointment I favor the use of *most* in the beginning of treatment is the white precipitate ointment made with vaseline of full or half the pharmacopœia strength.[†] This ointment is applied three times daily, either with a camel's-hair brush or simply with the index-finger, and then sniffed into the nasal passages sufficiently to cover over the entire diseased surface.

After the crusts are removed, I make occasional applications of strong solutions of sulphate of copper, nitrate of silver, or (preferably) of compound tincture of iodine, to the seat of the erosion. Usually the very simple treatment advised, when persisted in, will bring about a complete cure in one or two months of the erosion and of the epistaxis. The original disease, as we all know, is one of the most obstinate which, as specialists, we are called to treat. I trust the apparent triviality of my subject will not hide its real interest and importance. To make this fact manifest, I would merely add that until I adopted the treatment outlined in the foregoing remarks I was frequently baffled in my successful care of patients thus affected, although I followed closely the indications ordinarily insisted upon by writers on atrophic rhinitis. Particularly would I refer in this connection to the injurious effects of the galvano-cautery, which I have known to render a slight affection lasting and very troublesome, by producing raw surfaces very difficult to heal in the subjects of this special form of nasal disease.

In conclusion, I desire to say that, although the subject of my brief remarks is mentioned here and there in laryngological literature in a casual way, Dr. G. M. Lefferts is the only person, so far as I know, who has attempted to give an accurate and complete description of it. To this I refer my hearers in the Philadelphia "Medical News," vol. xl, 1882, p. 100.

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[*] Spunk is the product of a species of a genus of mushrooms denominated *Boletus*. It is known by botanists as the *Boletus igniarius*, or agaric of the oak, and usually rests immediately upon the bark of the tree. It was formerly much used by surgeons for arresting hæmorrhage, and probably acts mechanically. It is in flat pieces, of a consistence somewhat like that of very soft buckskin leather, and of a brownish-yellow color ("U. S. Dispensatory," thirteenth ed., pp. 1524, 1525).

[†] This is forty grains to the ounce.

A CASE OF RECURRING HÆMORRHAGE OF THE VOCAL CORD.[*]

By C. E. BEAN, M. D.,

ST. PAUL, MINN.

As I have been able to find so little recorded on the subject of hæmorrhage of the vocal cord, I have deemed the following case worthy of mention:

Mr. A., tobacco merchant, consulted me in the latter part of May, 1884, for the relief of a nose and throat complication of several years' duration. Examination of the parts revealed a hypertrophic rhinitis, follicular pharyngitis, and superficial inflammation of both vocal cords.

He was under my treatment at that time for three months, when he was discharged as entirely relieved.

In July, 1885, he again consulted me for a sudden hoarseness, following a violent paroxysm of coughing. Both vocal cords were inflamed, the right one appearing much the worse. He was under treatment at this time for only a week, when he had to leave the city. On his return, in two weeks, I found both vocal cords perfectly normal in appearance, and all his hoarseness had disappeared.

In September of the same year he again visited me, complaining of the same thing, stating that for two or three days he had had to use his voice more than usual, and the day before seeing me there had been a great deal of dust where he had been working, this causing almost constant coughing. There was no pain in the throat, the voice more husky than hoarse, and a constant inclination to clear his throat of some foreign material.

Upon examining his larynx, I found the left vocal cord in a normal condition; the right one was swollen, and of a dark-red color. Remembering a case I had seen under Dr. Cohen's care, I concluded this was a hæmorrhage of the vocal cord.

I applied, by means of a cotton carrier, a solution of nitrate of silver (gr. xxx–lx to ℥ j), varying it with a spray of sulphate of zinc (gr. lx to ℥ j), but it apparently was of no benefit, and it was the 1st of November, nearly two months after I saw him, before the cord was normal in appearance, although it had been reduced to its natural size.

On the 1st of February, 1886, he again applied to me for the relief of the same difficulty, following violent coughing. The left vocal cord was normal in appearance; the right one was almost black and swollen. I again used a spray of sulphate of zinc (gr. xl–lx to ℥j), applied three times a week, and the vocal cord cleared to its normal color the middle of March.

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[*] Read before the American Laryngological Association at its ninth annual congress.

I saw him no more until the 18th of August, when all the old symptoms had suddenly reappeared. The right cord was of a dull-red color; but on phonation the glistening membrane could be seen above the discoloration. I made no application at this time, but directed him to use his voice as little as possible, and gave him internally extract of ergot, in half-grain doses, three times a day. I examined the larynx once or twice a week. In about three weeks the cord had entirely cleared. Since that time he has been taking extract of ergot at intervals, and, by being careful in the use of his voice, has had no recurrence of the complication.

The suddenness of the attacks—coming on only after violent coughing caused by the inhalation of irritant substances—the absence of all pain during the attack, the limitation to one vocal cord, and the peculiar color of the part affected, seem to me to leave no doubt as to the diagnosis. I examined his lungs repeatedly, but could find no lesion there. During the last year he has gained in flesh and strength, and at this writing his larynx is entirely free from any appearance of his former trouble.

Correspondence.

LETTER FROM PARIS.

New Developments in Hypnotism.—Antipyrine in the Treatment of Painful Affections.

Paris, *September 8, 1887.*

Hypnotism has already formed the subject of some of my letters, and the doings of Professor Charcot's school are certainly curious, but the late communication of M. J. Luys to the *Académie de médecine* on the experimental solicitation of emotional phenomena in patients while in the hypnotic state is so very extraordinary that I can not pass it by. M. Luys is well known as having studied localization in the brain, and for his works on nervous diseases. He says that his present experiments were undertaken to confirm those made by M. Bureau and M. Bourn, and presented by them to the scientific congress held at Grenoble in 1885. In a few words, the experiments relate to the action of certain substances purely physical in character, and yet having a decided effect on the emotions of these subjects while in the hypnotic state. This seems to vary according to the susceptibility of the person or the different substances employed. They appear to be simply placed in a tube, and this is held against certain parts of the body. Exact details of the mode of operating will be given hereafter, as the Academy has named a commission of five members to examine into the matter and report upon it. The following are some of the statements made by M. Luys: The physical action of certain substances, such as strychnine, thyme, sparteine, morphine, atropine, and spirits, such as cognac, rum, etc., at a distance is certain. Many different patients were experimented upon, and, as they were entirely ignorant of what sort of substance was being applied to them, there could be no deception on their part. Moreover, nothing is said to the patients, as the substance is silently applied to the part. Instantaneous photographs of the effects produced were taken, copies of which were passed around to show the different emotional phases that the subjects passed through while under the influence of the physical action of the drugs mentioned. It would appear, for instance, that under sparteine the inspiratory muscles go into a convulsion and the whole region of the neck gets hard, while the patient becomes incapable of speaking. Morphine acts differently accordingly as the tube holding it is placed on the right or left side; for instance, placed on the left side of the back part of the neck, it brings about at once an expression of terror, which changes to violent anger if the action is prolonged. If, however, the same tube is placed just back of the right ear, the whole scene changes and the subject passes at once into a languid state and drops into the chair with the soft expression seen on the faces of patients who have taken an internal dose of morphine.

Atropine seems to have an action that causes an extreme state of weakness. The patient remains seated with his face long drawn out and his eyes vague and fixed. If its action is prolonged, the whole body gets stiff and the subject falls into a true opisthotonos. Cognac, rum, and champagne used in the same physical form are said to produce the same stages of intoxication as when taken in the usual way. Drunkenness comes on in eight or ten minutes, passing rapidly from the first slight excitation into complete resolution and inability to stand upright. The dose used in these last cases was 20 grammes [5 drachms] of cognac in the tube, and the process of getting sober again passed through the same phases that are usually observed, and took only the same eight or ten minutes. Some eighty-six substances were experimented with in all.

Antipyrine has been all the rage this last year with Professor Germain Sée. He again comes forward to tell of its good effects in headache, migraine, and facial neuralgia, which seem to be incontestable, but most of these results are obtained by hypodermic injections of the drug, and, as they very often give rise to local manifestations that are very annoying to say the least, it may be well to give the means used in Dr. Sée's service to prevent them. The local inflammation and pain are often quite intense, although they soon pass away, but the swelling produced by the liquid introduced very often remains and often frightens patients so that they will not submit to the injection. M. G. Beaudoin, an interne at the Hôtel Dieu, gives the means used there to prevent these bad effects.

First of all, the needle must be introduced *deep* into the tissues, and the injection should be introduced *very slowly*, so that the liquid will pass into the tissues progressively and regularly. In order to facilitate its diffusion, the ends of the fingers of one hand should perform a slight massage at the point of penetration of the needle. It would also be well to give several small injections at different points slightly removed, if the patient is not too sensitive to the prick of the needle. Part of the pain felt is due to the concentration of the remedy, so that it is best to use diluted solutions, 25 centigrammes [about 4 grains] of antipyrine to each cubic centimetre of liquid.

But there are some cases that call for a more rapid action, and a gramme [about 15 grains] of antipyrine must be used at once. Here it is of advantage to use cocaine to act locally on the tissues injected. The following is the formula used:

Antipyrine, } each........ 1 gramme [about 15 grains];
Water, }
Cocaine hydrochloride.... 0·015 gramme [about $\frac{1}{4}$ grain].

For those who are extremely sensitive to pain, the dose of the cocaine can be increased to 0·020 gramme [about $\frac{3}{10}$ grain]. The results in facial neuralgias, tic douloureux, etc., have been wonderful. In these last cases 5 grammes [about 75 grains] daily were given internally together with the use of the hypodermic injections.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, SEPTEMBER 24, 1887.

THE VAGARIES OF HYPNOTISM.

Hypnotism—using the term in the broad sense in which it is current—seems to be making greater and greater demands upon our credulity and threatening to play havoc with some of our most settled and apparently best founded notions of personal responsibility, the relation between cause and effect, and the like. Spiritualistic tricks grow tame and commonplace when we think of the manifestations of the occult power on which it may be supposed to depend. That aspect or phase of it which is known as "suggestion" was startling enough, notwithstanding the striking likeness it bore to the mesmerism of old, but it tallied with a popular tradition so prevalent that few men can wholly free themselves from it, and of which it would be rash to say that it had absolutely no foundation in truth. In view, also, of the diverse activities called into play in connection with the common events of life by the action of electricity and magnetism, it was not felt to be a matter of extraordinary difficulty to credit the alleged effects of bits of metal of one kind and another applied to the body, or even those of wood and other substances not before regarded as capable of generating a galvanic or magnetic current. But what is to be thought of the astounding manifestations that are said to have taken place in the course of M. Luys's investigations, an outline of which is given in the Paris letter that we publish in this issue? According to the account, various drugs are capable of exerting a profound action on the system under circumstances which seem to make it impossible that they should act in any manner known to us or readily imaginable That the phenomena of drunkenness should come on within ten minutes after a tube containing a little more than half an ounce of brandy has been placed in contact with some part of the body seems inexpressibly difficult to believe. No less astonishing are the results said to have followed the similar application of atropine and certain other drugs. Pending the report of the committee appointed by the French Academy of Medicine to investigate these matters, we must reserve our judgment, hard as it may be to do so.

But there is another aspect than that of their credibility that these experiments in hypnotism inevitably present to the practical mind, and that is the question of their utility. We lately gave our readers an account of a case in which a parturient woman was successfully anæsthetized by means of hypnotism, but in that instance the accomplishment of anæsthesia was not altogether perfect, and, such as it was, it was brought about and maintained only by efforts which most practitioners of medicine would hardly care to resort to. Still, the case was about the only example we remember in which hypnotism has been found to answer a good practical purpose. But all knowledge is said to be valuable, and it is possible that the light of such investigations as are concerned with hypnotism may enable us to explain facts that have hitherto appeared mysterious. For example, when a fellow-citizen conducts himself in an undesirable or injurious manner, we may find ourselves relieved of the disagreeable necessity of imputing his course to original sin, and be able to account for it by the fact that the disturbing influence of a bottle of spirit carried in his right-hand coat-pocket was too much for his natural goodness. We may also find it easier to solve the question of why the presence of "the Great Panjandrum himself with the little brass button on top" was so dwelt upon in the account of the festivities that were indulged in on the occasion when a certain woman "very incontinently married the barber."

MINOR PARAGRAPHS.

AN IMPOSITION ON THE NINTH INTERNATIONAL MEDICAL CONGRESS.

In recent issues of a New York newspaper we have noticed advertisements purporting to give the text of two papers read at the recent meeting of the International Medical Congress. This is not only a plain violation of the implied (if not expressed) contract by which all papers read at the sessions became the exclusive property of the congress, but it is a shameful prostitution of the prestige of a body representing the medical profession of the world to the purposes of trade. The advertisers are not to be blamed, for from their point of view the thing is justifiable enough, and we can not suppose that the authors of the papers prepared them with a view to any such use being made of them; but the result is, nevertheless, that the public will take it for granted that the congress "indorsed" the wares thus advertised—a position which that body certainly never intended to assume.

INSPISSATION OF THE LIQUOR AMNII.

In a recent number of the "Centralblatt für Gynäkologie," Dr. Lomer, of Hamburg, gives a minute description of a "dry labor" at which he officiated last year. He is positive that, from first to last, there was no escape of liquor amnii, but he says that after the expulsion of the child about a cupful of thick, stringy, gray material came away—the inspissated liquor amnii, he thinks. The child, although fully developed, was in a decided state of innutrition, and lived only nine months. The author quotes from accounts of two similar cases, one of which was published by the late Dr. Lente, of New York. He thinks that they might be oftener observed if it had not become customary to account for an apparent absence of the amniotic liquid by assuming that it had escaped unobserved. Although he can not fully substantiate Ott's theory that the liquor amnii has for its function the conveyance of nutriment to the fœtus, while the umbilical cord carries its breath, so to speak, he yet believes that the liquor amnii in some way and to some extent serves the purpose of nutrition.

GUMMY TUMORS OF THE BREAST.

In a recent Paris thesis on "Syphilis of the Mammary Gland," an abstract of which we find in the "Gazette médicale de Paris," the author, M. Claude, speaks of the circumscribed gumma as a pathological rarity which comes on insidiously, without prodromes and without pain, so that its existence is commonly discovered by pure chance. It is hard, globular, movable upon the parts beneath, and covered by normal integument. Unless treatment is employed to prevent it, it soon softens and breaks down, giving issue to a thick, brownish, purulent liquid. Antisyphilitic treatment is the touchstone in the diagnosis.

THE DISSEMINATION OF THE TUBERCULOUS CONTAGIUM

"LYON MÉDICAL" gives an interesting summary of a communication lately made to the Lyons Academy of Sciences by M. Galtier, a professor in the Lyons Veterinary School, that touches upon facts of the utmost importance to the public health. The author has found by experiment that the tuberculous virus is so tenacious of life that it survives immersion in water, desiccation, and freezing, and he properly calls attention to the dangers that must attend upon the neglect to disinfect the excreta of tuberculous animals, including the transmission of tuberculosis to man.

THE CITY SANITARY INSPECTORS.

WE are glad to see that, as is specifically recorded elsewhere in this issue, the City Board of Health has decided to grade its sanitary inspectors, and to provide for a progressive increase of pay proportioned to the duration and efficiency of their service. We are confident that this course will lead to the retention of many competent and experienced officers who would otherwise stay but a short time in the service.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 20, 1887:

DISEASES.	Week ending Sept. 13.		Week ending Sept. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	47	7	52	12
Scarlet fever	36	9	23	3
Cerebro-spinal meningitis	3	3	2	2
Measles	9	1	5	1
Diphtheria	81	26	70	29
Small-pox	4	1	4	2

The Health of New York City.—During the four weeks ending Tuesday, September 20th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Fourth Division of the Health Department: Typhoid fever, 175 cases and 35 deaths; scarlet fever, 123 cases and 24 deaths; cerebro-spinal meningitis, 12 cases and 11 deaths; measles, 32 cases and 4 deaths; diphtheria, 276 cases and 97 deaths; small-pox, 16 cases and 4 deaths.

The Health of Boston.—During the week ending Saturday, September 17th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 19 cases and 6 deaths; scarlet fever, 27 cases and 4 deaths; typhoid fever, 32 cases and 9 deaths. There were also 19 deaths from consumption, 8 from pneumonia, 7 from whooping-cough, 13 from heart disease, 4 from bronchitis, and 5 from marasmus. The total number of deaths was 182, against 189 in the corresponding week last year.

The New York Polyclinic.—The sixth annual session of the Polyclinic was opened on Monday, the 19th inst. We learn that the number of practitioners in attendance during last year's session was 301. Since the close of that session two large lecture-rooms have been added, and a laboratory for the study of bacteriology has been thoroughly equipped. We are pleased to note these evidences of the school's prosperity.

The Albany Medical College.—The introductory lecture of the course was delivered by Dr. Henry Hun on Tuesday, the 20th inst.

An American Practitioner in Paris.—Dr. Alexander S. Clarke, formerly of Brooklyn, where for several years he was an esteemed member of the profession, announces that he has taken up his residence in Paris, at No. 4, Boulevard Malesherbes, for the practice of medicine.

The Wines furnished at the Pension-Building Dinner.—The report having been circulated that only domestic wines were furnished on the occasion of the dinner given in the Pension Building during the recent session of the International Medical Congress, the idea being that cheap wines were provided for the sake of economy. the chairman of the committee of arrangements, Dr. A. Y. P. Garnett, of Washington, who is also the president of the American Medical Association, has made the following statement, which we find over his signature in the "Washington Critic":

"This certifies that the 'grand sec, Jules Mumm & Co.,' wine was served at the banquet given to the members of the International Medical Congress in Washington, and that it was pronounced by both foreign and American members extra-fine in quality and flavor, and in our judgment it has no equal."

Dr. Morell Mackenzie.—The "Lancet" states that Queen Victoria has conferred the honor of knighthood on Dr. Mackenzie, in recognition of his services in the case of the Crown Prince of Germany.

The Sulphur Treatment of Phthisis. — M. Dujardin-Beaumetz, the well-known physician to the Cochin Hospital in Paris, while not a member of the teaching faculty of medicine, gives a number of interesting free lectures at the hospital on therapeutical novelties. He lately took up the subject of getting sulphur introduced into the system in cases of phthisis, which is now much thought of since Bergeon's method was introduced. Vaseline oil was first used, as M. Villi had established that at 13° C. [55·4° F.] 100 grammes [about 3½ oz.] of this oil would dissolve 60 centigrammes [about 9 grains] of anhydrous sulphurous acid. A subcutaneous injection of such a mixture is well borne by the cellular tissues, and under the influence of injections of from two to three cubic centimetres the patients had less cough and expectoration and slept better. Direct inhalations of sulphurous acid were first used at the Cherbourg Military Hospital; 20 grammes [about 300 grains] of sulphur to the cubic metre of space were burned, and after twelve hours the patients were put into the room and kept there nine hours. In a short time, under the influence of this treatment, the bacillus disappeared from the sputa. Dr. Dujardin-Beaumetz used this plan, and burned 250 grammes [about 4,000 grains] of sulphur in an inhalation-room that was perfectly closed and measured 25 cubic metres. In an hour the patients were brought in and allowed to stay four hours. The results were wonderful, for the cough was diminished, sleep was better, and the expectoration was no longer purulent. In one instance hæmoptysis stopped. M. Ernest Labbée calls attention to the fact that Pliny said that doctors in his time used to send their phthisical patients to breathe the emanations from the volcanoes. Without doubt these were complex in character, but still they consisted mostly of sulphurous-acid gas, so that once more modern therapeutists are confirming the facts known to ancient empirics.

The late Dr. Alonzo Clark.—At a special meeting of the medical board of Bellevue Hospital, held September 19, 1887, the following minute was adopted:

The medical board of Bellevue Hospital desires to express its deep sense of the loss it has sustained, in common with the medical profession of this country, by the death of its honored associate, Dr. Alonzo Clark. For a third of a century he has been closely identified with the interests of this institution as a skillful and kind physician to its patients, a wise instructor of its successive house staffs and clinical classes, a consulting physician of large experience, profound learning, and sound judgment, and for many years as president of its medical board.

Dr. Clark possessed in a marked degree the qualities that belong to a physician of the highest type. He was a man of unusually impressive and dignified presence, with a manner of mingled firmness and gentleness that commanded the respect and won the confidence of all with whom he came in contact. He was an acute observer and an accurate diagnostician, and, though he was conservative in therapeutics, his conservatism was equally removed from obstinate adherence to old methods and rash experimentation with new ones. A life-time student, he kept at the level of the best thought of his profession, but at the same time he was an acknowledged leader, and by his teachings and writings did much to elevate the standard of medical science in this country.

But to those who knew the personal character of the man, its simplicity, solidity, and symmetrical development, how incomplete a conception of him is given by a mere enumeration of his intellectual qualities, good as these unquestionably were! Nature not only built him on a large scale, but she left out of his composition most of the foibles which so often lessen our respect for and impair the usefulness of those whom the world regards as great men. No trait was more notable in him than his remarkable self-control. Nothing appeared to disturb his equilibrium, not because he was impassive, but because the foundation of his mental structure was laid too deep to be easily shaken. He was eminently a kindly man, charitable in his judgments of others, liberal in his benefactions, but so unostentatiously that none but his most intimate friends, and probably not even they, knew their frequency and extent, and, as some of us can testify, he was a true friend in time of sorrow.

His mortal life ended with a long and distressing illness, but he bore it with a brave and uncomplaining spirit. To the profession he loved and honored he has left the fruit of his labors and the memory of a great and noble character.

A. B. Ball, M. D.,
[Signed.] Austin Flint, M. D.,
W. H. Thomson, M. D.,
C. L. Dana, M. D.

At a special meeting of the Board of Trustees of the College of Physicians and Surgeons, held on the twentieth day of September, 1887, the following resolutions were passed:

Whereas, We have been called upon to deplore the death of our late associate, Dr. Alonzo Clark, a former president of the College of Physicians and Surgeons, and for more than thirty years a distinguished professor in the institution; therefore,

Resolved, That we hereby record our eminent regard for the dignity and influence of Dr. Clark's personal character and our high appreciation of his attainments and distinction as a teacher.

Resolved, That the College of Physicians and Surgeons is largely indebted to Dr. Clark, as one of the most learned and skillful physicians of his time, for its high reputation as a school of medicine; and that it is both appropriate and gratifying for us, as trustees of the institution, to express our sense of the obligation. Also

Resolved, That we offer to the family of the deceased the assurance of our respectful sympathy in their deep affliction.

Resolved, That the foregoing resolutions be inscribed upon our minutes; that a copy of them, signed by the president and registrar, be transmitted to the family of the deceased; and that they be furnished for publication to such medical journals as the registrar may elect.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 17, 1887:*

Ashbridge, Richard, Passed Assistant Surgeon. Detached from Constellation and ordered to the Naval Academy, Annapolis, Md.

Ayers, Joseph G., Surgeon. Detached from Torpedo Station and to wait orders.

Wise, John C., Surgeon. Ordered to relieve Surgeon Ayers at Torpedo Station.

Coues, Samuel T., Medical Director. Detached from hospital, Chelsea, Mass., and placed on retired list. September 17th.

Bradley, George P., Surgeon. Leave of absence extended six months, with permission to remain abroad.

Society Meetings for the Coming Week:

Monday, *September 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *September 27th:* New York State Medical Association (first day—New York); New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo, N. Y., Obstetrical Society (private); Medical Society of the County of Lewis, N. Y. (quarterly); Boston Society of Medical Sciences (private).

Wednesday, *September 28th:* New York State Medical Association (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society.

Thursday, *September 29th:* New York State Medical Association (third day); Cumberland, Me., County Medical Society (Portland); New London, Conn., County Medical Society (extra, New London).

Saturday, *October 1st:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass. Medical Society.

Letters to the Editor.

DO THE OVARIES CONTROL UTERO-GESTATION?

Dayton, Ky., *September 9, 1887.*

To the Editor of the New York Medical Journal:

Sir: For the last seventeen years I have been studying the physiology of the female generative organs, and have from time to time given to the profession my investigations, principally through the columns of the "Cincinnati Medical News," but during all these years this enigma has to my mind remained unsolved. All physiologists admit that the ovaries are essential to pregnancy. Why? Because it has been proved to be true;

but the question, Do the ovaries control utero-gestation? has, I believe, never been settled, although plausible reasons can be given affirmatively and also negatively. In reading an article by Dr. Paul F. Mundé, in the "New York Medical Journal" of August 6th, I found what I had been in search of, namely, a double ovariotomy skillfully performed during pregnancy. Accordingly I wrote the following letter to the doctor, and received his courteous reply, in which he requested me to send both letters to the editor of the "New York Medical Journal" for publication, his letter taking one side of the question and mine the other side. James Barnsfather.

[Dr. Barnsfather to Dr. Mundé.]

August 28, 1887.

Dr. Paul F. Mundé.

My dear Sir: Excuse the liberty I have taken in writing you, but, after reading your article in the "New York Medical Journal" of August 6th, I could not resist the temptation of asking you a question that arose in my mind while studying your third case, viz., "double ovariotomy." You state that "on the third day uterine contractions set in in spite of the hypodermics of morphine which had been given at intervals since the operation to keep the uterus quiet, and on the fourth day I was [you were] suddenly called to find the whole intact ovum escaping from the vulva."

What I wished to ask you was, Have you ever known of a woman carrying her fœtus till term *after she had had a double ovariotomy performed upon her?* With *one* ovary left, I can understand that utero-gestation may be uninterrupted, but, when *both* are gone, I see nothing left but the expulsion of the contents of the uterus. Please give me *your* experience, and you might also place the question before the New York Obstetrical Society.

I am, my dear sir, very respectfully,
James Barnsfather.

[Dr. Mundé to Dr. Barnsfather.]

September 2, 1887.

Dr. James Barnsfather.

Dear Doctor: Your letter of 28th ult., which reached me here [in the Adirondacks] just before my return to the city, contains an inquiry to which I find no answer in the literature at my disposal. I have just looked over Olshausen's work on "Ovarian Tumors," probably the most comprehensive recent book on the subject, and nowhere do I find the question of removal of *both* diseased ovaries during pregnancy referred to. He gives 20 per cent. as the proportion of cases in which pregnancy was interrupted by the operation, but does not state whether one ovary or both ovaries were removed. The inference is that only *one* ovary was diseased and removed. Certainly, as I remarked in my paper in the "New York Medical Journal," pregnancy with both ovaries so degenerated as in my third case must be unusual. And hence I infer that double ovariotomy during pregnancy is rare. But, aside from this question of rarity, I do not see why gestation should not go on undisturbed even though both ovaries are removed, since the only influence the removal of the second ovary (whether diseased or not) would have on the uterus, so far as I can see, is the infliction of an additional irritant to that organ in the shape of a second wound and ligature, and this double irritation the uterus certainly might endure, when, as cases have shown, it bore puncture without reaction. Your question is, however, exceedingly interesting, and I should like to see it answered. I would suggest your sending your letter, which I herewith return, and this, my answer, to the "New York Medical Journal," through which medium possibly a satisfactory reply from personal experience may be furnished by some laparotomist.

For our guidance in cases similar to my third case it is certainly of practical importance to know whether the removal of the second ovary, diseased or healthy, will *inevitably* bring on the speedy expulsion of the fœtus. If this were proved to be the case, it would undoubtedly be worth while to risk a second subsequent ovariotomy by having one ovarian tumor (the smaller, of course) undisturbed, in order to secure a viable child. Yours truly,

Paul F. Mundé.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL MEDICINE.

The President, Dr. A. B. Arnold, of Baltimore, in the Chair.

The Practice of Medicine at the Present Day.—The President called the section to order at 3 p. m. on Monday, September 5th, and proceeded to read his address, thus entitled. He contrasted the tendency to rely almost entirely upon nature's powers to restore health and the tendency to attempt to do everything by the aid of drugs. In spite of the fact that there were intelligent physicians who held such extreme views, the mortality from fevers and other diseases had decidedly decreased during the past few decades. It was often necessary to resort to some measures for the reduction of high temperature in fevers, yet drugs administered for this purpose were not without their dangers, and could not always take the place of cold applied directly to the surface. Facts in medicine were not without value, but, unfortunately, they often supplanted basic principles entirely. Preventive medicine and bacteriology might be said to constitute a new epoch in the history of medicine. The longevity of the human race, especially among the poorer people, had been much prolonged by the advance of preventive medicine during the past ten years.

Some Suggestions on the Pathogenesis of Yellow Fever.—Dr. Ignacio Alvarado, of Mexico, in a paper with this title, took the view, based largely on his experience with yellow fever at Vera Cruz, that the disease was caused by a specific microbe, and that the symptoms were due either to acid phosphate of sodium or phospho-glyceric acid set free from lecythin by the reactions produced in the blood by the microbe.

Pneumonia as met with in various Parts of the Dominion of Canada.—Dr. W. P. Geikie, of Ontario, in this paper, gave a summary of the observations of various physicians throughout the Dominion of Canada as expressed in replies to a circular letter sent out by him. The disease was rare in Assiniboine and Alberta, but it was to be remembered that there the population was scanty. In British Columbia pneumonia often complicated typhoid fever. Low types of the disease were likely to be seen where there were bad drainage and impure water. Many cases had occurred in Ontario during the past spring and winter, and in some instances it had seemed to spread by contagion.

In reply to a question, Dr. Geikie said he had not found pneumonia more frequent in malarious districts, but it was more fatal.

The Preventive Power of Vaccination.—Dr. Joseph Korosi, of Budapesth, Hungary, read the paper. He reviewed statistics on vaccination, and dwelt upon those gathered during the past year from the hospitals of Hungary, going to show not only the ratio of mortality among the vaccinated and the unvaccinated having small-pox, and the relative liability of these two classes to acquire the disease, but also the ratio of mortality from other diseases among those who had and those who had not been vaccinated. The ratio of mortality among those acquiring small-pox was much greater if vaccination had not been previously performed. As to the relative frequency of other diseases than skin diseases in children, it did not seem to be influenced by vaccination; nor was the mortality from other diseases than small-pox greater among the vaccinated than among the unvaccinated. The frequency of cutaneous diseases among children was 13 per cent. greater among the vaccinated, but this was only a slight offset to the great saving of life arising from preventive vaccination.

Vaccination and Pasteur's Treatment was the title of a paper by Dr. W. M. Whitmarsh, of England. The author described Pasteur's method and illustrated it on the blackboard and by specimens. He thought it was by no means free from danger; some of Pasteur's patients had died after the inoculation, and it was a question whether the disease had not developed in consequence thereof. The infrequency of hydrophobia in persons supposed to have been bitten by a mad dog should make one hesitate to resort to an uncertain and probably dangerous preventive treatment. Dr. Whitmarsh also gave some reasons for doubting the efficacy of vaccination against small-pox.

Dr. C. A. Leale, of New York, said that about twenty thousand sick children yearly entered institutions with which he was connected, yet he had never seen a case of hydrophobia. We should not, then, alarm people bitten by dogs by sending them for treatment to Pasteur.

Dr. Welch, of Philadelphia, believed from hospital experience that vaccination had absolute power of preventing small-pox. He preferred humanized virus.

The Natural History of Disease.—Dr. John A. Octerlony, of Louisville, in this paper, maintained that diseases had a natural history, but that it was often obscured by the action of medicines administered—of course, with the intention of benefiting the patient. While not expressing distrust in the value of medication, the author thought that often when diseases were left to nature they ran their course as quickly and as favorably as when art was called to nature's assistance. A knowledge of the natural history of disease was of great value, and to best obtain it would necessitate concerted observation by numerous physicians in various parts of the world. Such studies could be best made in hospitals, but important aid could be obtained from private practice. To show that it was justifiable to allow certain cases of disease to run their natural course in order that such information might be gained, he cited the fact that in public hospitals it was considered legitimate to experiment with drugs of the action of which little was known, and to try unsettled methods of treatment. Further reasons were cited, such as the fact that many diseases ran a favorable course without treatment, acute affections tended to recovery, the doubtful efficacy of remedies applied, etc.

The Disease of Inebriety, and its Treatment.—Dr. T. D. Crothers, of Hartford, Conn., first gave a historical review of his subject, showing that before insanity was regarded as anything else than spiritual madness, inebriety was considered a disease, but that at the present time this view was reversed, insanity being regarded as a disease, while inebriety was commonly looked upon as a kind of spiritual madness. Inebriety was due to heredity, to physical or mental shock, to structural changes in the brain, to disturbances of nutrition, or to nerve irritations. Inebriety also followed certain diseases without known reason. The proper place for treatment was in hospitals, which should be regulated according to the severity of the case and also according to the social standing of the patient.

Some Points on the Treatment of Phthisis.—Dr. R. S. Smith first related his experience with injections of gas *per rectum*, after Bergeon's method, and said he had found it to be of no value. The method which he had found most successful was the administration by the mouth and the intrapulmonary injection of iodoform or iodol.

Diabetes.—Dr. Pavy, of England, said that in diabetes the system was unable to dispose of the carbohydrates ingested; the sugar entered the circulation and was excreted in the urine. The fault lay, apparently, in the portal system. In testing the urine for the presence of sugar, the food taken should be considered. It was well to examine specimens obtained at night and in the morning. The copper test was most reliable. Some of the early symptoms of diabetes were mentioned, and the dietetic and medicinal treatment was discussed. In general, the use of carbohydrates was to be avoided or restricted. The principal diet should consist of meat, butter, cheese, and a very limited amount of bread.

The Ætiology of Phthisis was the title of a paper by Dr. Phillips, of Edinburgh, which was read, in the absence of the author, by Dr. Stockman.

Some Considerations on the Pathogenesis of Diseases of Women, a paper by Dr. W. B. Neftel, of Chicago, was read by the secretary. Dr. Neftel described experiments on animals for the purpose of studying the effects of pulmonary compression, especially with relation to the development of tuberculosis. The morbid conditions produced by the experiments consisted of arterial anæmia and venous stasis. This condition resulted also from tight lacing in women, and predisposed to the development of the *Bacillus tuberculosis*. The author thought the whole question of dress for women should be discussed from a hygienic and scientific point of view, and, in order to exert any wide influence, the views advocated should receive the sanction of the profession in different countries as represented in the International Medical Congress.

Other papers were read by title.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(*Continued from page 331.*)

Are the Tubes and Ovaries to be Sacrificed in all Cases of Salpingitis?—Dr. William M. Polk, of New York, in a paper with this title, first described the conditions formerly attributed to pelvic cellulitis, but which it was now known might be caused by salpingitis. Salpingitis did not seem to be so destructive as maiming in its action. There was good reason to believe that this maiming was often due less to disease of the tubes or the ovaries than to adhesions to which it had given rise and to displacements. The conclusions given in the paper had been drawn from the observation of one hundred cases of salpingitis, in fifty of which the diagnosis had been confirmed by opening of the abdomen, while in the other fifty there could be no doubt of its correctness. On comparing the symptoms with those of what was formerly known as pelvic cellulitis, he had found the two conditions to be practically the same. The majority of patients with salpingitis recovered; of the remainder, much the larger number remained invalids for years, and the others succumbed to the disease. Of those who recovered from salpingitis, some remained sterile. Had he been asked a year ago whether the tubes and ovaries should be sacrificed in all cases of salpingitis not tending to recovery, he would have answered in the affirmative, but experience had modified this view. In some cases he had found that the adhesions were the most conspicuous feature; there was tubal disease, it was true, but it amounted to little more than a catarrhal inflammation. But there was absence of dilatation of the tubal canal, although the walls were thickened. Aside from some peri-oophoritis, the ovaries appeared normal. But they were bound by adhesions in an abnormal position. Recurrent inflammatory attacks did not form an important feature in the clinical history; they were chronic cases. In comparing the pathological condition with the clinical history, it had occurred to him that the adhesions might be an important factor in causing the sufferings of the patient. If this were true, it seemed a cure might be effected simply by relieving the adherent organs. There were certain objections to such an operation, one important one being to prevent the renewed formation of adhesions. An aid in this direction was Alexander's operation for retaining the uterus in an elevated, corrected position. The object sought for was to relieve the patient of her sufferings, and at the same time avoid the mutilation which the operation performed by Mr. Tait involved. The success of the procedure was to be measured only by actual experience, and the author had eight cases to relate, the histories of four of which had already been published in the "American Journal of Obstetrics"; those of the other four were in the records of Bellevue Hospital. Of the last-named four cases, in the first, on opening the abdomen, shortening of the utero-sacral ligaments was found, the posterior face of the uterus being attached to the rectum. These adhesions were torn, the utero-sacral ligaments were stretched, and a drainage-tube was put in. The patient did well. In another case the womb was bound down by adhesions, which he broke up, and he then lifted the uterus, loosened the tubes and ovaries, and did Alexander's operation to retain the uterus in position. In the other two cases also there were adhesions, which he tore, and then performed Alexander's operation. In closing, he wished to say that the operation for the removal of the tubes and ovaries had been a great boon to woman, but, as it involved mutilation, it should be confined to the narrowest limits possible consistent with the preservation of health and life.

Dr. A. Martin, of Berlin, an invited guest, said that it gave him pleasure to know that Dr. Polk did not limit the term salpingitis to cases in which there was a tumor of the tubes. Neoplasms of the tubes were very rare, probably because there were no glands in those organs. Their most common affections were catarrhal, having their origin in the mucous lining of the uterus. Some thought salpingitis was often of gonorrhœal origin, but in only one case had he found the gonococcus. Tuberculosis was seldom seen in this locality. Catarrh of the tube might give rise to swelling, to hæmorrhage, or to purulent accumulation. Early occlusion usually took place. The disease was commonly limited to the tube. In only a minority of cases had he found it necessary to operate. As most of the cases of salpingitis were catarrhal, we should first try all means of treatment in harmony with this nature of the disease, and. failing, then operate. He had removed the tubes and ovaries in only eighteen cases, and they were carefully selected severe cases, urgently requiring the operation. The percentage of mortality had been about twelve per cent. The general treatment which he employed varied in different cases, but he enjoined rest, applied leeches and ice-bags over the abdomen, and, if there was tenderness, he employed a narcotic. When the tenderness had subsided, he applied preparations of iodine, peat, etc. He seldom used mercurial preparations locally unless there was a distinct history of syphilis. He tried to regulate the digestion, and in some cases employed massage with caution.

Dr. T. A. Emmet believed, with Dr. Martin, that a large number of these patients could be cured without resorting to an operation, and that it was our duty to first try other measures, unless it might be in cases of salpingitis of known gonorrhœal origin.

Dr. Goodell, of Philadelphia, was in accord in great measure with the views expressed by Dr. Martin and Dr. Emmet. But the whole subject under discussion was to him yet in a chaotic state. He would like Dr. Martin's opinion as to whether a purulent collection in the tube could be dispersed. He had become a convert to Dr. Polk's views, that the pelvic troubles usually began as a salpingitis, and that the peritonitis followed. But it seemed to him that Dr. Polk had mentioned procedures which were a little more severe than removal of the ovaries. Having opened the abdomen and liberated the tubes and ovaries, why need we resort to a second operation, Alexander's, exposing the patient to the dangers of two operations? Why should we not remove the tubes and ovaries? The operation would not imply mutilation, for the woman was already incapable of bearing children, and her sexual instincts remained the same after the operation. The speaker was unable to say what constituted such a pathological condition of the tubes and ovaries as always to demand their removal.

Dr. G. G. Bantock, of London, an honorary member, answered the question involved in the title of Dr. Polk's paper unhesitatingly in the negative. His own views had been well expressed by Dr. Martin. He had come to the conclusion that certain cases of salpingitis required removal of the uterine appendages. He had seen cases in which the adhesions were more serious than the disease within the tubes. The operation suggested by Dr. Polk seemed to him uncalled for, the occlusion of the tubes which existed would prevent pregnancy, and, if the appendages were left, they might again become adherent.

Dr. R. Stansbury Sutton, of Pittsburgh, Pa., said that, when there was pus in the tubes, it should be removed. He asked what the use was of pulling the tubes and ovaries higher up and sustaining them there in the class of cases described by the author? He cited cases showing the difficulty of deciding whether or not the ovaries and tubes should be removed.

Dr. Polk said the operation performed by him had been suggested by a case in which neither the young wife nor the husband would hear of any operation involving mutilation. The symptoms rendered an exploratory operation necessary, and, finding the chief pathological condition to be adhesions of the tubes and ovaries, he broke up the adhesions, and the symptoms afterward disappeared. The question of mutilation was to this couple, if to no one else, a question of the greatest importance. A case cited by Dr. Bantock, moreover, showed that, after salpingitis presumably demanding removal of the appendages, pregnancy might take place. The dangers of an exploratory operation had no weight in deciding upon a curative operation in these cases. We must, if possible, avoid mutilation. Where this was not possible, we should not hesitate to remove the tubes and ovaries, but the field for this operation should be well defined.

Drainage after Laparotomy.—Dr. Paul F. Mundé, of New York, read a paper in which he first reviewed the practice of distinguished gynæcologists in the use or non-use of the drainage-tube after laparotomy. Olshausen was the most strenuous opponent of drainage. The paper, which was read in part only, further considered the advantages and the disadvantages of the drainage-tube, the best form of tube, and the substitutes for drainage. Theoretically, all blood, pus, and other fluids should be removed, but practically this was not always found to be necessary, for the peritonæum was capable of disposing of serum, ovarian fluid, and even laudable pus, without endangering the system. But the object of drainage, when it was employed, was the removal of intra-abdominal fluid, which by subsequent decomposition might cause septicæmia. The author had employed drainage, but he never felt safe until he was enabled to remove the tube and found the pulse and temperature normal. Of late he had omitted drainage in several cases in which formerly he would not have done so, and the results had been favorable. There was some danger of exciting peritonitis by the tube, and in practice there were several instances in which mischief had resulted which he believed would have been avoided had he closed the abdomen and trusted to absorption of the oozing blood. He would now use drainage less frequently than heretofore. Another possible trouble from the tube was gastric irritation, which in a few cases he had been able to account for in no other way. Remote dangers from the tube were delayed healing of the abdominal wound, and hernia. If drainage was omitted, the peritoneal cavity should be thoroughly cleansed, and the abdominal cavity might be washed out.

Dr. Martin, speaking of his own experience, said he did not apply a drainage-tube in ordinary cases of laparotomy. The few cases in which he applied the drain were those of supravaginal hysterectomy, vaginal hysterectomy, and large fibroid and cystic tumors of the broad ligaments in which the wound surface could not be closed.

Dr. Bantock used the drain when there were abundant adhesions and he found it impossible to dry the peritoneal cavity. Here he would wash out the cavity with warm water. He thought Dr. Mundé was influenced by the germ theory, but he (Dr. Bantock) attributed his improved results in great measure to his having discarded antiseptic fluids. When he used drainage he employed the straight glass tube, and attached importance to emptying it every two or three hours, particularly during the first day. The tube should not be removed so long as the fluid was tinged with blood.

Dr. Gardner, of Montreal, an invited guest, said that, of his last thirty-five cases of laparotomy, he had employed drainage in about one half.

Dr. W. Gill Wylie, of New York, referred to the advantage of the drainage-tube in indicating hæmorrhage.

Dr. Goodell employed drainage, but he was skeptical as to its advantages.

Dr. Mundé disclaimed any knowledge of germs and the part they played in septic infection.

At the opening of the second day's session, the president referred to the loss to the society of Dr. John Scott, of San Francisco, and asked Dr. T. A. Emmet to prepare a memoir.

The Therapeutic Value of Some Medicines in the Treatment of Hæmorrhagic Conditions of the Uterus.—Dr. C. D. Palmer, of Cincinnati, in a paper with this title, referred to the meagerness of the literature of this subject, and to the fact that the surgical aspect of gynæcology was, it seemed, being cultivated almost to the exclusion of the medical. The principal drugs which were discussed were ergot, digitalis, *Cannabis indica*, bromide of potassium, arsenic, and gallic acid; remedies more recently employed were gossypium, *Hamamelis virginica*, fluid extract of hydrastis, and *Viburnum prunifolium*. Indications for these drugs in different cases were based upon the author's own experience and that of others. Of these medicines, none was oftener prescribed or was more efficient in its action than ergot. Digitalis could also be spoken of as a uterine hæmostatic with considerable confidence. The cases calling for digitalis were those in which the uterine hæmorrhage was related to disordered circulation, as in mitral insufficiency. Arsenic was of benefit when there was a malarial state; the bromides were useful when there were nervous symptoms. Cathartics were often indicated.

Dr. Fordyce Barker, of New York, said the success which he had obtained with these remedies depended upon using them in properly selected cases. Arsenic, when indicated, as it was in vaso-motor disturbances before the menopause, should be administered between the menstrual periods. When the period approached, he gave bromide of potassium, fifteen or twenty grains three times a day. Hydrastis was one of our most important internal remedies for controlling hæmorrhage. He was particularly pleased with what the author had said regarding the fault of the portal circulation. He frequently gave a mercurial purgative, and some mineral water on the mornings before the period.

Dr. Lloyd Roberts, of Manchester, England, an invited guest, had very little confidence in any drug, except ergot, in the treatment of passive hæmorrhage of the uterus. It was all-important to have a good preparation of the drug. The greatest good would be secured by administering it between the periods.

Dr. Balls-Headley, of Melbourne, Australia, an invited guest, used ergot, but had not been convinced that it did any good. He also employed tincture of chloride of iron.

Dr. Grant (Bey), of Cairo, an invited guest, related a case of uterine hæmorrhage in a woman treated by other physicians for uterine fibroid. Suspecting syphilis, he administered mercury, and the hæmorrhage ceased.

Dr. H. P. C. Wilson, of Baltimore, had little confidence in any particular remedy for arresting uterine hæmorrhage.

Dr. J. R. Chadwick, of Boston, had found that Chian turpentine had a marked effect on uterine hæmorrhage. He gave ergot preferably between the menstrual periods. He gave aromatic sulphuric acid during the flow.

Dr. William L. Reid, of Glasgow, Scotland, an invited guest, among other measures, employed alum.

(*To be concluded.*)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Continued from page 276.*)

The Treatment of Laryngitis in Professionals who are Unable to Rest.—A discussion of this subject was opened by Dr. J. Solis-Cohen, of Philadelphia, as follows: I must confess that I am not able to treat laryngitis in professionals who are unable to rest any better than I can in anybody else. When, as occasionally happens to all of us, a professional who is compelled to attend a performance that night comes to me hoarse from a recent laryngitis, caught probably *en route*, the one method which I have found the best is to administer a sharp emetic, and then let the patient rest until the time of the performance, forbidding the use of the voice. In addition to this, I often let him keep fragments of ice in the mouth, and put a cold compress around the neck. In chronic laryngitis in persons compelled to travel and to attend to their professional duties, I have found nothing of more service than a weak solution of sulphate of zinc (two grains to the ounce), sometimes the sulphocarbolate of zinc, used two or three times a day with an ordinary hand-bulb atomizer. In the intervals of the play, if very hoarse, let them inhale a little compound tincture of benzoin. For habitual inhalation, turpentine, terebene, eucalyptol, etc., are good. Sometimes I advise these patients to throw some turpentine upon the carpet at the bedside when they go to bed, so that they can inhale some of the vapor during the night. I am not aware of any method which is especially adapted to these people.

Dr. T. A. De Blois, of Boston: I have had these professional vocalists under my care occasionally, and I have found that, no matter how much zinc is used, or how much turpentine is sprinkled upon the carpet, if they do not rest their vocal organs the hoarseness will continue. When a person has to take part in a performance within twelve hours after treatment, I have sometimes found excellent results from the local use of nitrate of silver, and very distressing results from the use of hydrochloride of cocaine. There seems to be a certain amount of relaxation following the use of cocaine, so that, although the pain of the laryngitis subsides, it does not seem to bring tone to the vocal cords. I think we may say, in general, that where there is no rest there is no cure in these cases.

Dr. Beverley Robinson, of New York: My experience in the treatment of cases similar to those referred to by Dr. Solis-Cohen has been very limited. Still I have had a certain number of cases during the past eight or ten years which I have watched pretty closely, and I have come to the following conclusions: That, as far as acute cases are concerned, there are other methods than the use of an emetic, as employed by Dr. Solis-Cohen. Certainly the persons with whom I have had to do would not consent to such treatment with any great amount of cheerfulness. In light cases I have found chloride-of-ammonium tablet triturates, taken every fifteen minutes or half-hour, the most efficient internal remedy. For local use nothing is better than the modified carbolized spray. When applied two, three, or more times a day, I think it is one of the best agents for the relief of the acute stage of laryngitis in those who are obliged to use their voice frequently. I believe the difficulty with the voice is due to the acute inflammation. So far as the chronic functional trouble of vocalists is concerned, I believe at times it is dependent upon an inflammatory condition of the mucous membrane. When I have believed this to be the case, I have used with benefit applications of an astringent solution. In such cases internal remedies are not likely to do much good. With this experience I have come to think that occasionally the trouble lay with the nervo-muscular power, and that the mere appearance of the mucous membrane was of little importance. I put it into the power of one gentleman to re-establish his voice when it got beyond his proper control by teaching him how to use the faradaic battery once or twice a day as occasion demanded. This man's vocal cords are nearly always more or less red, but I do not attach so much importance to that, for, according to my limited experience, that condition is present to some degree in almost all vocalists, and we can not expect to bring about what is usually regarded as an absolutely normal appearance of the cords, although we may bring about vocal power.

Dr. F. H. Bosworth, of New York: As I have said before, I do not believe that there is any such disease as a laryngitis in the sense that the larynx itself is the seat of an inflammatory affection, any more than we should say there was a dermatitis when there was a thorn sticking in the flesh. The seat of the disease is not in the larynx, but in the nasal passages above. Furthermore, the treatment should be directed to the nose, the object being to contract the blood-vessels. It has become a habit with me, and I have repeated the practice successfully within a very few days in this class of cases, to eliminate the cold in the head, in the nose, by applications of cocaine. If we reduce the hyperæmia in the nasal chambers, in the majority of cases the larynx will take care of itself. My experience with the use of cocaine extends over many cases, and, contrary to what has been said by Dr. De Blois, I have not seen more than two cases in which there was any reaction. Take twelve grains of hydrochloride of cocaine, use just sufficient water to dissolve it, and suspend it in fluid cosmoline. The patient carries with him a hand atomizer, and sprays this cocaine into the nose every hour or two. Some of it is at the same time inhaled. What is done, then, is to control the cause of the hyperæmia of the larynx—namely, the disease in the nose.

Dr. Beverley Robinson: I rise to make a correction. I think it would be a grave mistake to allow the impression to go forth that this association believes with Dr. Bosworth that a large proportion of cases of hoarseness and laryngeal difficulties depend upon nasal trouble; or that we do not repeatedly see cases of hoarseness and trouble in the larynx without any nasal trouble whatever. I think the reason why Dr. Bosworth has made this mistake is that a large proportion of the people who have laryngitis do not go directly to the specialist.

Dr. C. E. Sajous, of Philadelphia: Dr. Robinson has said in part what I had intended to say. I have treated a good many of these people, and I can most emphatically say that the action of cocaine on the larynx is pernicious. At first I supposed that cocaine was precisely the drug for these cases, so I applied a four-per-cent. solution, and sometimes a ten-per-cent. solution, to the larynx, but every time I used cocaine I had occasion to regret it. These people felt afterward as if some foreign body were in the throat which rendered them unable to use it properly. As to acute laryngitis in singers, I do not see the necessity for always attributing it to a nasal trouble. In the majority of these cases there is fatigue as a cause. They generally owe it to their heartless manager, who requires them to rehearse six or seven hours a day, besides performing at night. The presence of a cold in the head, of course, occasionally militates against our treatment, a fact which we must not overlook when these patients come for treatment. I never neglect the nose in these cases, but I can not agree with Dr. Bosworth that in every case the nose is affected. It has been my custom to use internal treatment to a degree. I have found quinine and nux vomica of great assistance in some cases in which local applications to the larynx were not beneficial. I have found even sprays irritating; fumes are sometimes so. I content myself then with giving a grain or two grains of quinine every hour or two hours, with a quarter of a grain of nux vomica. In that way I am very often able to place patients in such a state that they are able to sing in the evening. A weak faradaic current, as recommended by Dr. Robinson, I have also found advantageous. I make the application at my office, and request the patient to come for another application an hour before the performance. Now, with regard to coca wine, I can not say that I disregard its merits at all. I generally advise patients to take between the acts a sherry wineglassful, and have always obtained satisfactory results with it. Formerly this kind of laryngitis had been to me a kind of bugbear, but within the last year, since recognizing the virtues of these remedies, I have obtained better results.

Dr. W. C. Glasgow, of St. Louis: I object decidedly to the views advanced by Dr. Bosworth. I have cured laryngitis without touching the nose, and I regret that such heretical opinions should have been presented. I have seen the class of patients who are the subject of discussion at present. The laryngitis from which they suffer is of various kinds. When they are obliged to play, I do not spray the nose and I do not use cocaine. I use an application to the larynx consisting of carbolized iodine, which is a soothing application, one which relieves the congestion; and it gives power, for it is also a stimulant. Thus a great many of these people are enabled to finish their engagement, not cured, of course, but relieved. I have seen many such patients, but my attention has been given to the larynx, and not to the nose.

Dr. C. C. Rice, of New York: It seems to me that the whole truth is not on either side in this discussion. I think the predisposition to laryngeal congestion and inflammation does usually originate in the nose. I believe that nasal troubles antedate laryngeal troubles, and predispose to the laryngeal congestions and consequent disorders of the voice from which singers suffer. On the other hand, these people are frequently unable to sing on account of fatigue of the laryngeal muscles, when there is no disturbance in the nasal chambers at all. I agree with Dr. Robinson that the color of the mucous membrane in the larynx in these cases is of little significance. I have seen one or two singers who could sing exceedingly well whose vocal bands were always red. On the other hand, persons who have constant difficulty with the voice sometimes have pallor of the mucous membrane, and no other pathological condition except inaction of the internal muscles of the larynx. With regard to treatment, I think well of Dr. Bosworth's prescription of cosmoline and cocaine, but I think it is the cosmoline which does the work, not the cocaine. I approve of cosmoline and vaseline prescriptions. I have had much better results with a spray of vaseline in the larynx, or some mild soothing application of that kind, than with astringents.

Dr. M. J. Asch, of New York: The views presented as to laryngitis being due invariably to nasal disease must be received as individual, and not as representing the generally accepted opinion. By no means a few still believe that affections of the larynx belong to the larynx alone. I believe that the cases under discussion should be divided into two classes: those which are acute, and those which are chronic in character. The acute cases, I have found, are best treated by ordinary methods for treating any acute complication. A singer can not be relieved any more quickly than anybody else. But by vapors, internal medicines, etc., I think we can resolve this condition as readily as any other. The internal treatment which I have employed is like Dr. Robinson's. I think chloride of ammonium is one of the most useful internal remedies in diseases of the larynx or bronchi. The difficulty in treating singers is the fact that they are unable to take rest. There is a certain amount of hyperæmia constantly present in their vocal organs, together with some thickening of the membrane, which will not be cured without local applications. I do not think that applications to the nose will cure it. I have seen a number of cases in which there was no catarrh of the nasal passages; the whole trouble seemed to be in the larynx. Nothing equals the application of an astringent, but I do not believe it necessary to use any exclusive method. The spray does well in some cases, but if I want to cure a case I use the brush. The application which I have most frequently used is a solution of perchloride of iron, thirty to sixty grains. In many cases, when singers get rather hoarse, a single application of this kind will put them in very good condition. It will not cure them, but it will enable them to sing or to speak. There is another matter which has been overlooked. Many singers, especially opera-singers, lead rather an irregular life; they take a good deal of wine, eat heartily when they are not expected to sing, and are apt to suffer from some hepatic trouble. I do not believe that there is any method by which the larynx of the professional singer can be put in perfect order while he is at work.

Dr. F. H. Hooper, of Boston: I would say a word with regard to a class of cases not yet referred to—namely, those of professionals in whom there is an alteration in the quality of the voice simply from overexertion or fatigue. In one case of this nature I have seen a want of tension in one cord and not in the other. Applications of electricity externally over the larynx, and the use of aromatic spirit of ammonia, thirty or forty drops in half a tumblerful of soda-water, repeated, are very efficacious in these cases.

Dr. J. N. Mackenzie, of Baltimore: I think Dr. Bosworth has been a little unjustly criticised in this discussion. For my own part I think he is to a great extent right in his conclusions as to the dependence of laryngeal upon nasal diseases. I think that the vast majority of cases of chronic laryngitis will be found on careful examination to be dependent upon or associated with disease of the nasal passages, and upon the recognition of this fact, it seems to me, depends the successful treatment of the vast majority of cases of chronic laryngitis which we see in practice. Yet I admit there are cases in which the larynx is the primary seat of the disease, and that apart from any local irritative process. I should like also to caution against the indiscriminate and injudicious use of cocaine in diseases of the nose and throat. I have called attention to this at several meetings of this association. The explanation of the danger which suggested itself to me was that after a while the cocaine produced a permanent puffy condition of the erectile tissues. I am confident that in several cases I have prolonged the condition several weeks by the use of cocaine, and I shall never use it just before the singer is going on the stage or the speaker commences to address an audience. The sensation in the larynx which these people experience after the use of cocaine is sometimes second only to that of hanging. I have tried it on myself. But when it is used in the nose the sensation is delicious, provided none of it trickles down the throat. I think the impression is gaining ground in this country that the indiscriminate use of cocaine is to be deprecated.

Dr. B. F. Westbrook, of Brooklyn: I think the suggestions of Dr. Solis-Cohen and of Dr. Asch have not received sufficient consideration. While it is undoubtedly true that many singers and elocutionists who suffer from acute and chronic laryngitis suffer from strain and overwork of the vocal apparatus, yet it is probably true that in the majority of the cases the primary cause of the trouble is some derangement of digestion. It is this, probably, which predisposes them to these laryngeal affections. There are a great many singers and readers who do not have laryngitis, and there is a minority who do. It is fair to conclude that in the latter class there is a predisposition to it, and I think this predisposition depends primarily upon malassimilation—the lithæmic, gouty, or rheumatic condition. Therefore the practice of giving an emetic is very valuable, and the advice of Dr. Asch, which is in the same direction, is almost equally important. I think there is nothing so beneficial in cases of this kind as to give a large dose of tartar emetic. Calomel and jalap are very good, also podophyllin, compound cathartic pills, and so on; but it seems to me that an active emetic does more toward restoring the natural condition than all these other things. I think I have seen a number of cases of acute hoarseness clear up very rapidly under the use of mineral acids. The best way to give them is in very small doses frequently repeated, say every hour or half-hour. I have seen cases in which it was necessary to give the salicylates or wine of colchicum.

Dr. S. W. Langmaid, of Boston: Although so many remedies have been found to be sure cures, I doubt if any of the gentlemen have found the condition in question an easy thing to cure at all times.

The Galvano-cautery in the Treatment of Hypertrophied Tonsils.—Dr. Charles H. Knight, of New York, read a paper with this title (see page 339).

Dr. C. E. Sajous, of Philadelphia: I have frequently tried the method advocated by Dr. Knight, puncturing the tonsil repeatedly with the galvano-cautery, and I am inclined to think that, unless one is rather heroic in the treatment, it will prove too tedious. As to operating on the tonsil with the galvano-cautery snare, I think it is an excellent method. The plan I usually pursue is to tighten the wire around the tonsil first and then apply the current. The heated wire burns as long as it is tightly drawn around the tonsil. By drawing it up more, the entire gland is gradually burned through. In operating in that way I have never yet seen the patient lose a drop of blood. The procedure requires from twelve to fifteen minutes, and is rather unpleasant to the patient, but it is safe. As to hæmorrhage after amygdalotomy, I have had two cases which were exceedingly tedious and very dangerous. One of the cases occurred recently in a patient sent me by Dr. Bartholow. He had large tonsils, the vessels were large, he was of a plethoric habit, and was forty-seven years of age. I hesitated to use the guillotine, and by using the galvano-cautery puncture succeeded in bringing the tonsils down pretty well, but not with sufficient speed to satisfy the patient, who said that Dr. Bartholow also thought it might be done more rapidly. I concluded to take off a part of the tonsil with the guillotine, but found that my apprehensions regarding hæmorrhage had not been ill-founded, for, after I had taken a piece off, the patient had seven consecutive hæmorrhages, losing several ounces of blood.

Dr. T. R. French, of Brooklyn: It not infrequently happens that patients will refuse the guillotine and submit to applications of the cautery. In cases where the tonsils are small or have been insufficiently removed, and can not be grasped by the guillotine, the cautery is a very valuable substitute. I should like to inquire if Dr. Knight usually finds it necessary to use cocaine before applying the cautery loop to the tonsils. I am in the habit of using the cautery quite freely in these cases, and have not seen inflammatory reaction, except in one instance, and then it was very mild. I certainly do not consider the danger from hæmorrhage after the use of cutting instruments sufficiently great to make the cautery method preferable to amputation with the guillotine.

Dr. A. W. MacCoy, of Philadelphia: I have had some experience with the galvano-cautery, and am in the habit of making a distinction in its application to different conditions. In cases of glandular hypertrophy I am fond of using the galvano-cautery, but for some years past I have ceased to use it in the interstitial. or connective-tissue, hypertrophy. I think the objection which has been raised is probably founded somewhat on the truth, that in cases of interstitial hypertrophy it is likely to leave a cicatrix which often constitutes a painful and annoying point or the basis of further trouble. I do not use the snare, and am not satisfied that the point is more satisfactory than several other caustic measures, especially chromic acid. Applying this agent on a small probe inserted into the crypts, I am satisfied that one can get quicker action and less disagreeable and offensive sloughing than in some cases in which the galvano-cautery is used. I am positive that I have seen a few cases in which the cicatrix in the tonsil made by the galvano-cautery was the source of great annoyance.

Dr. Beverley Robinson, of New York: I have pretty distinct views on this subject. For my part, I have held, and hold more firmly to-day than ever before, that there is no so-called small operation in surgery that is so unpleasant to perform as amygdalotomy. Mothers bring their children to the doctor for an operation upon enlarged tonsils, supposing that it is a comparatively trivial affair, but, for my part, I prefer not to do it if I can avoid it. I think this feeling is due partly to a certain kind of timidity; I do not believe that there is any great probability of serious hæmorrhage. Still, the operation is one which I regard as an unpleasant one. Eight or nine months ago a child was brought to my office with very large tonsils, almost touching each other in the median line. I felt a good deal of timidity about cutting them off, and had my friend Dr. Bull see the patient, who said that of course they ought to be excised. Dr. Bull was present at the operation, and Dr. Hasbrouck administered nitrous-oxide gas. The teeth of the child remained tightly clenched and were separated with difficulty, thus rendering the operation less easy. Despite this fact, and likewise that one tonsil could not be completely excised with the amygdalotome, the operation was completed; the child bled a good deal, but not alarmingly. Still, for a few minutes it was to me, as it often has been, a disagreeable experience, and I do not hesitate to say that I would rather perform tracheotomy than amygdalotomy in a small child. I do not believe the tonsils are taken off with half the frequency that is generally believed, even by men who are not bad surgeons. I have used the galvano-cautery several times, and I am inclined to regard it as one of the most convenient and best methods.

Dr. C. C. Rice, of New York: It seems to me most unfortunate to unduly frighten the profession with regard to the dangers of tonsil-cutting. I do not propose to speak of the frequency of hæmorrhage, but we all know that it occurs very rarely. The large, white, boggy, hypertrophied tonsils of children must be cut. There is no substitute for the amygdalotome here, as the use of the galvano-cautery is a slow, tedious process. The child will bear only one touch of the cautery at a time. I am not underestimating the value of the galvano-cautery in adults, for it is a very efficient instrument in reducing tonsils. I think we must generally resort to amygdalotomy in children. The galvano-cautery is particularly useful in adults when there is reason to fear hæmorrhage, and in cases in which the tonsil is so small that it is difficult to grasp it with the guillotine.

The President: I do not mean to occupy much time in speaking on this subject, although it is one of considerable interest to me. I think it was Dr. Solis-Cohen who, a number of years ago, said something about treating the tonsils with the galvano-cautery. I have done this frequently, but my experience has been different from that of some of the gentlemen who say there is no soreness afterward. At least that is the impression I have of their belief. In the cases in which I have used the galvano-cautery, whether used little or much, there has always been soreness. The patient complains of it for from one to three days. If it is possible to reduce the size of the tonsil with any sort of rapidity and without this soreness I should be very glad to know it, but from my experience I can not believe that it is possible. In the paper to which I referred I believe it is stated that twenty or thirty operations were required. I have latterly come to feel very much like one of the speakers regarding removal of the tonsil in children, but not for quite the same reason. I do not think I am timid about it, and I do not fear hæmorrhage, but I hate to hurt these little ones. I think it is as serious a matter for a child to have the tonsils removed as it would be for an adult to be hung, so far as the mental suffering is concerned. If this can be avoided it certainly ought to be done. On this account I have been in the habit for some time whenever it was practicable, and it usually is, to give ether, and remove the tonsil with the snare, using a large steel wire; and a tonsil forceps when the gland is not easily secured by the wire loop.

Dr. Harrison Allen, of Philadelphia: Hearing the paper and the discussion has awakened my memory to the circumstance of Dr. Lefferts, when president, reading a valuable paper upon tonsilar hæmorrhage. He took for his motto, "To be forewarned is to be forearmed." In fact, when you take out a tonsil you must be ready for hæmorrhage. Dr. Lefferts advocated amygdalotomy, yet his homily was, "Be ready for hæmorrhage." If I remember aright, I was the only one in the hall at that time who opposed amygdalotomy. I did not hesitate to express dread of such operations. You do not know what vessel will be wounded. I think we should take particular care in the selection of our cases, and not make too broad a statement in favor of amygdalotomy. We should not forget that the general practitioner may not be able to select cases with as much judgment as Dr. Rice, who advocates free cutting. The cases of serious hæmorrhage are much more numerous than we know of.

Dr. D. Bryson Delavan, of New York: I have operated many times. I have occasionally seen the operation followed by pretty sharp hæmorrhage, but I believe that, with suitable means at hand for checking it, there is little danger. I prefer the Physick amygdalotome as modified by Morell Mackenzie, and have never known its use to be attended with undue loss of blood. General practitioners often become much alarmed at the first gush of blood which follows the excision. That gush is perhaps the rule, but it generally ceases within a few minutes. If it does not subside we have means of stopping it. I have found it very difficult to discover many authenticated cases of dangerous hæmorrhage after amygdalotomy. I have been very much interested in the paper read by Dr. Knight, and have used the method referred to in a number of cases with decided success. I think, however, that in children it is very difficult of application, but that it is especially applicable to persons whose tonsils are of large size, and who are old enough to control themselves.

Dr. J. Solis-Cohen, of Philadelphia: I can only say what I said before this association several years ago, namely, that in many cases of moderate engorgement on freeing the palate from the tonsil the tonsil will go down without further operation. Inflammation causes adhesion of the tonsil to the anterior fold of the palate. The tonsil being fastened there, it can not go down. I think that, in a great many of the cases of hæmorrhage, at any rate of minor hæmorrhage, the bleeding is caused by cutting the arch of the palate. The vessels here run vertically, and, of course, if you cut out an oval portion they can not contract as they do when the vessel is cut transversely. With regard to the galvano-cautery, while I have used it a good deal, I have never been able to obtain the success with it which the writer of the paper alleges. I should like to send him a number of patients to see whether they could be relieved by four or five applications. In my own cases it has required twenty, thirty, or even fifty applications of the galvano-cautery, whether used in the interior of the tonsil or on the outside. A very good method is to take a flat-bladed knife, such as is used with the electro-cautery, penetrate the tonsil transversely, and work your way outward. This may require one, two, or four days. Then go in the vertical direction, and thus get a half or a third of the mass off. Repeat with the remainder, gradually trimming the irregularities of the tonsil down as you proceed. In that way, if the patient is able to keep up his visits regularly and long enough, I am able after some time to get permanent good results.

Dr. C. H. Knight: I think Dr. Solis-Cohen misunderstood me when he represented me as saying that it required only four or five applications of the cautery to cure the tonsils. I said the tonsil should be burned at two or three points, and that it took from four to ten sittings, the average being from six to eight. With regard to cocaine, I do not use it habitually; I do not think the tonsil is a very sensitive organ, but, for the sake of reassuring the patient, I sometimes use cocaine.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of September 1, 1887.

The President, Dr. Thomas M. Drysdale, in the Chair;
Dr. W. H. H. Githens, Secretary.

Placenta Prævia Centralis.—Dr. Robert H. Hamill showed the specimens from the case of a woman, forty years old, who, in the seventh month of her fourth pregnancy, had such severe recurrent hæmorrhage, due to placenta prævia, that, Dr. B. C. Hirst having been called in consultation, version and extraction were decided upon, the fœtus presenting transversely. The placenta was perforated, and a foot was readily brought down through the perforation, but extraction of the head proved exceedingly difficult, in consequence, the speaker thought, of the narrowing of the pelvic canal by the bulk of the placenta. The first loss of blood had occurred very early in gestation.

Dr. Longaker remarked that the most favorable statistics showed from forty to forty-five per cent. of children saved. Hæmorrhage early in the pregnancy usually indicated a central implantation of the placenta, and labor should be induced early in such cases. Immediate delivery by traction on the leg was to be condemned. The breech was a perfect tampon, and after one leg was brought through the placenta the case might be left to nature. The hand should not be passed into the uterus, but the placenta should be perforated by one or two fingers and bipolar version effected. If traction was made on the leg and rapid delivery was attempted, a bad presentation of the head at the superior strait would result, and the cervix would not be sufficiently dilated by the body to allow the head to pass quickly, so that the child would become asphyxiated. The average result of rapid delivery was unfavorable. The maternal mortality was from ten to forty per cent.

Dr. Hamill did not think the delivery in his case had been too rapid. Traction was made on the leg, because nature was exhausted.

Dr. B. C. Hirst read a paper entitled "A Contribution to the Study of Diffuse Hyperplastic Inflammation of the Decidual Endometrium."

Acute Pneumonia in Utero.—Dr. Hirst exhibited the specimens and remarked that pneumonia during intra-uterine life was rare, but had been observed. Dr. Stischan, of Australia ("Brit. Med. Jour.," 1886, ii, p. 860), had reported a case, and Dr. Sigl, of Germany ("Arch. f. Gynäk.," xv, p. 384), had collected three others. Sigl's explanation was undoubtedly the correct one. If the fœtal blood was not properly aërated, the respiratory center in the brain was stimulated to action by the excess of carbonic-acid gas in the blood, and the fœtus made inspiratory efforts, drawing into its lungs amniotic fluid, containing in these cases possibly meconium, and a catarrhal pneumonia was the result, ending usually in the death of the fœtus, either *in utero* or shortly after birth. These cases were to be distinguished from those in which the fœtus drew into its lungs amniotic fluid, mucus, and blood during labor. The specimens shown by the speaker were the lungs of an infant which had died twenty-two hours after birth, having been cyanosed from the first. The mother had had a large lumbar abscess for the past year, and when she came under the speaker's observation in the Philadelphia Hospital, in the sixth month of pregnancy, exhibited all the signs of general septicæmia. She gave birth to her child at the seventh month of gestation. The post-mortem examination of the infant showed no other cause for death than the pneumonia, which involved both lungs, and must have arisen *in utero*, as the labor was easy and rapid, and there was no reason to believe that the child made inspiratory efforts during its expulsion. The microscopic sections, which were exhibited, confirmed the diagnosis. They showed well-marked catarrhal pneumonia.

An Ectromelic Monster was also shown by Dr. Hirst. The deformity consisted in the absence of the left femur and four toes of the left foot.

Rapid Development of a Fibro-sarcoma of the Uterus.—Dr. J. C. Dacosta narrated the case of a patient who came under his care three years ago for catarrhal metritis, the uterus being sharply retroflexed, and the posterior wall bulging as if an interstitial fibroid were present. These conditions were all cured by the use of sponge tents. About the middle of last May she was attacked with a profuse metrorrhagia, lasting ten or twelve days. Fungous vegetations were removed with the curette. The June period occurred normally on the 22d, but a recurrence of the bulging in the posterior wall was noticed. She went to the sea-shore, but returned on July 22d, worn out, thin, and with white, anæmic lips. She had had a sanious discharge from the vagina for the preceding twelve days. Her condition had been diagnosticated at the shore as "fibroid and ulcerated cervix." The os was as large as a five-cent nickel. The cervix was filled with a pultaceous mass, which was extruded by the free use of ergot. On July 25th the speaker removed from the body of the uterus a tumor three inches long by two inches thick—a fibro-sarcoma which had grown in the course of thirty days. The patient recovered rapidly.

Dr. Drysdale thought this very rapid. These tumors were likely to recur.

Abscesses of Both Ovaries.—Dr. Joseph Price exhibited a specimen. In his experience it had been a common condition. He had operated in four such cases within three months. This patient had escaped unoperated upon from Birmingham. Pus was present in both tubes. The operation was a complete enucleation without ligature.

Dr. Price also exhibited a "cotton rope," or wick, which he used in drainage-tubes. It became filled with blood, serum, etc., and was replaced with a clean one two or three times a day. This kept the openings clear, and favored the discharge of fluids.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 11, 1887.

The President, Dr. T. Mitchell Prudden, in the Chair.

Measles, Pneumonia, and Diphtheria.—Dr. W. P. Northrup presented the larynx, trachea, lungs, and kidneys of a child which had died in the New York Foundling Asylum at noon that day. It had been brought into the asylum on the 3d of May, sick with measles. There was very little respiratory trouble, and there were no signs of croup. The dyspnœa from which the child afterward suffered was supposed to be due to a well-marked double pneumonia. There were at no time croupy symptoms, nor was any membrane to be seen in the throat. Yet the autopsy revealed a tough membrane, extending from the tip of the nose down into the finest bronchi at the base of the lungs. There was in the larynx an abundant deposit of the membrane, yet there had been no symptoms of croup. This fact was interesting in connection with another which the speaker had seen in some cases of measles—namely, marked croupy cough, sometimes with loss of voice, although no membrane was present, the anterior commissure of the vocal cords, however, being found ulcerated. If the slough at that point constituted diphtheria, that was its only location. The case was also interesting with regard to the condition of the lungs and kidneys. The lower lobe of the left lung was nearly solid, and when first removed was blue and sunken. The same condition was present in the right lung until it was inflated by blowing with some force through a pipette. The appearance of the lung corresponded to the descriptions given of atelectasis, and the test of inflation would bear out that diagnosis. But after inflation the lung was rose-colored, there was infiltration of the bronchi, and there were signs of parenchymatous pneumonitis. The speaker had examined the lungs in many cases for several years past, to determine whether it was collapse or pneumonia which killed children after tracheotomy. In no case in which there was membrane in the trachea and bronchi, and an area of livid, depressed, but inflatable lung, corresponding to the classical descriptions of collapse given by authors, had he failed to find conclusive evidence of parenchymatous pneumonitis. In the alveoli there were pus and swollen cells, probably swollen epithelial cells, although he could not say positively that they were not pus cells. In the alveoli, supposed by some authors to be collapsed, he had occasionally found fibrin. He thought the presence of pus, swollen epithelium, and fibrin placed it beyond doubt that it was pneumonitis and not collapse. Many cases had been reported recently in which the authors spoke of there being albumin in the urine drawn after death. The speaker was unable to say how soon after death albumin might make its appearance in the urine, but he had examined the urine soon after death (within three hours) in a number of cases, and had found that there might be albumin without casts or indications of nephritis. He thought drawing the urine after death and finding albumin did not show that the patient had had nephritis. In the present case the autopsy was made within half an hour after death, and albumin and casts were found in the urine. The kidneys were anæmic, as were also the lungs. The speaker queried how much this anæmia of the internal organs was due to opening the aorta and letting out the blood. The gross appearance of the kidneys did not enable him to judge whether or not there was parenchymatous nephritis, but this was indicated by the microscope.

General Tuberculosis; Hæmorrhage into the Brain.—Dr. Northrup also presented specimens from a child which was brought to the asylum, having been taken suddenly with convulsions, which continued twelve hours, when it died. The only condition found, aside from general tuberculosis, was punctate hæmorrhages at the floor of each lateral ventricle of the brain. The ventricles were much dilated, and contained considerable serum. It was a question whether the convulsions were due to the hæmorrhage into the ventricles, or whether the hæmorrhage was due to the convulsions. The liver, among other organs, contained tubercles; it was large, and on its cut surface there appeared to be nodules, which were found, on examination, to consist of dilated gall-ducts. The walls of these ducts were stained green and thickened. This condition was unusual in the general tuberculosis of adults, but was common in that of children.

Dr. W. H. Porter thought hæmorrhage into the lateral ventricle of the brain was likely to be followed by contraction of the pupil on that side, and afterward by dilatation; then came contraction of the other pupil, succeeded by dilatation. He thought that, with that peculiar condition of the pupils in a case in which there was loss of consciousness, there was likely to be hæmorrhage into the lateral ventricles. He did not know why an effusion into the ventricles might not give nearly the same symptoms that a moderate hæmorrhage would produce.

Dr. Northrup remarked that the convulsions had been sudden, severe, and general, ending in coma. That would seem to point to an effusion into the ventricles.

Book Notices.

A Practical Treatise on Renal Diseases and Urinary Analysis. By William Henry Porter, M. D., Professor of Clinical Medicine and Pathology in the New York Post-graduate Medical School and Hospital, etc. Containing One Hundred Illustrations. New York: William Wood & Co., 1887. Pp. xiii-349.

With such classical works on kidney affections as Roberts's, Tyson's, and others, an author must have good reasons for entering this field of medical literature. In Dr. Porter's case these seem, as he tells us in the preface, to rest on a large experience in the pathological laboratory, extensive investigations in experimental pathology on the lower animals, and a line of reasoning different from that of other writers on the same subject. Heretofore, he says, renal diseases have been studied chiefly from the clinical and pathological points of view. He has added in his reflections the physiological standpoint. We are thus prepared for novel ideas, of which we get an abundance in the text.

The book is divided into two parts. The first treats of the various kidney affections, the second of urinary analysis. It is a difficult task to criticise the first part. The author speaks with such positiveness and dogmatism that he disarms all criticism and evokes instead a feeling of gratitude for his having supplied us with what appears *terra firma* instead of what has always appeared as an ocean of skepticism and uncertainty. The young student, at least, would feel thankful to him were it not that the classification is interminable and not a little confusing. "Acute parenchymatous metamorphosis of the kidney" takes the place of acute parenchymatous nephritis. Sclerosis of the kidney is subdivided into four forms. Three varieties of chronic diffuse nephritis are given, each of which, it is stated, can be distinguished by some differences in the urine. Syphilis is considered as an ætiological factor of one variety. The complications of renal diseases are enumerated, and under the complication of peritonitis the subject of acute kidney affections following surgical operations is discussed. The remarks in this connection are timely, and, if too positive, at least raise a note of warning not to be unheeded in the management of surgical cases.

The second part, devoted to urinary analysis, takes up 145 of the 339 pages which form the volume. That the subject is important and worthy of thorough treatment every one will admit. But there may be a few who will find fault with the author for padding this part with nearly ten pages of an article on the fermentation test that recently appeared in a medical journal, and would like to be told if the test has been found more reliable and more expedient than the simple quantitative test given by Roberts. The reviewer, from his experience, is inclined to answer in the negative.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Asselin & Houzeau, Paris.—A. Bouchard, "Nouveaux éléments de pathologie externe." Vol. i, part 1. (6*fr.*) —— C. Paul, "Diagnostic et traitement des maladies du cœur." 2d ed. (16*fr.*)

A. Delahaye & E. Lecrosnier, Paris.—C. L. Quincerot, "Manuel de thérapeutique dentaire spéciale et de matière médicale appliquée à l'art dentaire." —— Odent, "Des angines pseudo-membraneuses au cours de la scarlatine." (2*fr.*)

Bureaux du "Progrès médical," Paris.—C. Féré, "Étude expérimentale et clinique sur quelques fractures du bassin." (1*fr.* 25.) —— F. Guyon and C. Féré, "Note sur l'atrophie musculaire consécutive à quelques traumatismes de la hanche." (0*fr.* 50.) —— H. Picard, "De l'incontinence nocturne d'urine essentielle." (0*fr.* 50.) —— A. G. Raison, "Des traitements des phénomènes douloureux de l'ataxie locomotrice progressive par pulvérisations d'éther et de chlorure de méthyle." (2*fr.* 50.)

G. Steinheil, Paris.—A. Lutaud, "Étude médico-légale sur les assurances sur la vie et le secret médical." (2*fr.*)

F. Hayez, Brussels.—Masius, "Note sur l'action physiologique et sur l'action thérapeutique du sulfate de spartéine."

F. Vallardi, Rome.—G. Cesari, "Il ferro e suoi preparati." 2d ed. (4*l.*) —— P. Schivardi, "Manuale teorico pratico di elettroterapia." 2d ed. (7*l.* 50.) —— P. Loreta, "Conferenze cliniche sulle lussazioni traumatiche." 2d ed. (6*l.*) —— E. Perroncito, "I parassiti dell' uomo e degli animali utili." (20*l.*) —— G. Bizzozero, "Di un nuovo elemento morfologico del sangue e della sua importanza nella trombosi e nella coagulazione." (2*l.* 50.)

Miscellany.

The City Board of Health.—At a recent meeting of the board, the following resolutions were passed:

Resolved, That Dr. W. DeF. Day be and is hereby relieved of the duties of Register of Records of this Department.

Resolved, That Dr. R. S. Tracy be and is hereby transferred from the position of Chief Sanitary Inspector to that of Register of Records, and that his salary be fixed at $3,000 per annum.

Resolved, That the position of Chief Inspector in charge of the Sanitary Police be and is hereby abolished, and that William Bullard be transferred to the position of Chief Sanitary Inspector, vice Dr. Tracy transferred to the Division of Vital Statistics, and that the Sanitary Police report to Chief Sanitary Inspector Bullard.

Resolved, That on September 19, 1887, the medical sanitary inspectors of this Department be transferred to the Division of Contagious Diseases, and that on that date they do report to Dr. J. B. Taylor, Chief Inspector of that Division, for instructions.

Resolved, That the Chief Inspector of the Division of Contagious Diseases be and is hereby directed to report to this board at once a comprehensive and concise plan for the instruction of the medical sanitary inspectors in the performance of their duties, whereby a systematic and persistent war can be waged on all forms of preventable and contagious diseases in this city.

Resolved, That from and after January 1, 1888, the medical sanitary inspectors be graded as follows: *First Grade.*—This grade shall consist of all such medical sanitary inspectors as may thereafter become connected with this branch of the department, together with all such medical sanitary inspectors as are then connected with this branch of the service who have served the department satisfactorily in the capacity of medical sanitary inspectors for three years or less. The salary of this grade shall be $1,200 per annum. *Second Grade.*—This grade shall consist only of such members of the first grade as shall have served satisfactorily in that grade for the term of three years, together with all other medical sanitary inspectors of this branch of the service as at present constituted. The term of service of each member of this grade shall be two years and the salary shall be $1,500 per annum. *Third Grade.*—This grade shall consist of only such medical sanitary inspectors as shall have served satisfactorily in the second grade for the full term of the same. The term of service of each inspector of this grade shall be three years at a salary of $1,800 per annum. *Fourth Grade.*—This grade shall consist only of such of the members of the corps as shall have served satisfactorily in the third grade for the full term of its service. The salary of this grade shall be $2,000 per annum.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 15th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending August 27th corresponded to an annual rate of 20·8 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest rate was recorded in Sunderland, viz., 17·7, and the highest in Preston, viz., 38·8 in a thousand. Small-pox caused 5 deaths in Sheffield.

London.—One thousand four hundred and ninety deaths were registered during the week ending August 27th, including 29 from measles, 36 from scarlet fever, 24 from diphtheria, 51 from whooping-cough, 13 from enteric fever, 191 from diarrhœa and dysentery, and 3 from cholera and choleraic diarrhœa. There were 160 deaths from diseases of the respiratory organs. Different forms of violence caused 50 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 18·5 in a thousand. In greater London 1,911 deaths were registered, corresponding to an annual rate of 18·4 in a thousand of the population. In the "outer ring" 93 deaths from diarrhœa were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending August 27th in the sixteen principal town districts of Ireland was 24·1 in a thousand of the population. The lowest rate was recorded in Lisburn, viz., 4·8, and the highest in Wexford, viz., 42·8 in a thousand.

Dublin.—One hundred and ninety-eight deaths were registered during the week ending August 27th, including 13 from measles, 1 from whooping-cough, 3 from enteric fever, 26 from diarrhœa, and 4 from dysentery. Diseases of the respiratory organs caused 24 deaths. Five accidental deaths were registered, and in 34 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 29·2 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending August 27th corresponded to an annual rate of 18·7 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock and Leith, viz., 14·4, and the highest in Perth, viz., 25·9 in a thousand. The aggregate number of deaths registered from all causes was 466, including 2 from measles, 16 from scarlet fever, 10 from diphtheria, 26 from whooping-cough, 4 from fever, and 53 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending August 20th, corresponded to an annual rate of 26·3 in a thousand. The lowest rate was recorded in Mülhausen, viz., 13·8, and the highest in München, viz., 40·3.

Calcutta.—Two thousand four hundred and sixty-three deaths were registered during the quarter ending June 30, 1887, including 438 from cholera, 679 from fevers, 190 from dysentery and diarrhœa, and 2 from small-pox.

Naples.—The United States consul, under date of August 22d, states that "since my dispatch of the 10th instant there have been about 77 cases of Asiatic cholera in this city, the mortality being 70 per cent. The number of cases at Resina is unknown, all official information being withheld. The disease appears to be on the decline."

Malta.—The United States consul, under date of August 22d, states that "since the 13th instant the number of cases of cholera and deaths ensuing therefrom which occurred in this island have been officially reported to be 70 cases and 19 deaths. Twenty-six deaths occurred during the same period from cases previously reported. . . . The epidemic, which some doubt whether it is the real Asiatic cholera, has not assumed alarming proportions considering the dense population of this island and the intense heat prevailing this summer."

Marseilles.—The United States consul, under date of August 4th, states that "the health of Marseilles, notwithstanding the constant and excessive heat which has prevailed during the past thirty days, has been exceptionally good. . . . I am assured that not only is there no choleraic disease in the city, but likewise none of that tendency to digestive disturbances which preceded both recent epidemics. A strict quarantine is maintained in case of all vessels arriving from the infected ports, and the sanitary prospect at Marseilles for the remainder of this year is thought to be exceptionally favorable."

Gibraltar, August 19th.—The board of health has this day decided that the existing restrictions on arrivals from southern Italy be extended as far as the Promontory of Gargano, in the Gulf of Manfredonia.

Livingston, Guatemala.—The secretary of the legation of the United States at Guatemala City, under date of the 7th instant, states that 4 cases of yellow fever are reported at Livingston.

Havana.—The sanitary inspector, Dr. D. M. Burgess, reports 15 deaths from yellow fever and 47 from small-pox for the week ending September 3d.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	August 20.	2,260,045	885	..	....	11	....	18	4	18
Glasgow	August 27.	545,678	183	..	....	....	....	1	5	5
Warsaw	August 20.	439,174	268	..	....	22	....	....	....	....
Calcutta	July 23.	433,219	181	19	....	....	....	....	....	....
Amsterdam	August 27.	378,686	156	..	....	....	....	....	....	2
Rome	July 2.	372.779	181	..	....	4	....	2	1	....
Munich	August 26.	269,000	211	..	....	....	3	....	4	2
Palermo	August 21.	250,000	274	85	....	....	....	2	7	3
Edinburgh	August 20.	258,629	84	..	....	....	....	1	2	....
Belfast	August 27.	224,422	115	..	....	....	....	2	1	....
Bristol	August 27.	223,695	81	..	...	....	....	....	4	2
Havana	August 25.	208,000	181	..	15	40	....	4	....	....
Genoa	August 20.	179,363	97	..	....	1	3	....	...	....
Trieste	August 20.	150,157	84	..	....	3	....	1	2	3
Stuttgart	August 27.	125,510	41	..	....	....	....	....	1	....
Bremen	August 20.	119,000	49	..	....	....	....	....	1	1
Havre	August 20.	112,074	91	..	....	....	....	22	....	....
Reims	August 20.	97,903	64	..	....	....	....	....	1	1
Leith	August 13.	72,297	22	..	....	....	....	....	1	....
Merida	August 23.	50,000	102	..	2	....	....	....	....	....
Mayence	August 13.	65,701	44	..	....	....	1	....	1	....

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two hundred and eighty-two cases and 62 deaths have been reported up to September 14th. Eighteen cases are now under treatment.

ANSWERS TO CORRESPONDENTS.

No. 44.—The vinegar need not de diluted.

No. 45.—The word is pronounced to'-mah-ene.

No. 46.—(1) We do not know what has become of Dr. Ferrán. As to his alleged discoveries in the preventive inoculation of the cholera microbe, they seem to have excited no interest among scientific men, since a French commission made its report, a year ago or more, which report intimated that the opportunities necessary for a proper investigation of Dr. Ferrán's processes had not been afforded. (2) For accounts of Kolischer's treatment of tubercular deposits, see the Journal for July 30th, page 131, and for August 6th, page 159. We know of no more precise published data than were given by our Vienna correspondent.

No. 47.—The instrument is made by Messrs. Stohlmann, Pfarre, & Co., 107 East Twenty-eighth Street, New York.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE TOXIC EFFECTS OF IODOFORM, CUTANEOUS AND SYSTEMIC.*

By R. W. TAYLOR, M. D.,
SURGEON TO CHARITY HOSPITAL.

Among the important advances which have been made within the past ten years in medicine and surgery, and particularly ætiology and therapeutics, the contributions to our knowledge of the toxic action of drugs, systemic and cutaneous, may, I think, deservedly take high rank. While, ten years ago, our knowledge of the toxic effects of drugs upon the skin was limited and fragmentary, to-day it is much more extended and far more systematic. Many drugs which were formerly thought to be harmless are now known to possess toxic properties which develop upon the skin. Indeed, in no department of medicine has more good work been done than in the study of drug eruptions, much of it, by the way, by American observers. It is pleasing to note that two monographs on this subject, showing wide and painstaking observation and much erudition, have appeared within the present year from the pens of two members of this association, Dr. White and Dr. Morrow. It is in the line of this good work that I venture to present this paper upon the action of iodoform, which within the past seven years has been shown to possess the most subtle and formidable toxic qualities, systemic and cutaneous. Though a number of cases of the iodoform exanthem have been published, our knowledge of the subject is to-day incomplete and unsatisfactory. The literature is as follows: Zeissl reported two cases, 1881; Fifield one case, 1882; Fabre published two, Janowsky six, and from Neisser appeared a short article based on seven cases, in 1884; Goodell one case in 1885; Treves two cases and Köster-Syke one case in 1886; Koenig, in 1882, and Hoepfl, in 1883, spoke casually of erythema occurring in cases of iodoform poisoning. There are really, however, but sixteen cases on record from which definite information may be obtained. To these I add nine, seven of which occurred in my surgical and genito-urinary practice, and two were under the care of friends.

The histories of these cases, which I will give with all possible brevity, very clearly portray the multiform dermal changes due to this drug. Since the toxic action is largely and sometimes wholly systemic, the constitutional effects of the agent must also be considered in this essay.

Finally, the practical lessons drawn from my own experience and from my study of that of others, which are of interest to physicians and surgeons as well as dermatologists, will also be considered.

Case I.—A man, aged twenty-one, in the fall of 1885 presented two small chancroids on the inner layer of the prepuce. He applied iodoform to the surface, and within three hours the whole penis and scrotum were red, swollen, and the seat of intense pruritus and burning. By the use of cooling lotions in the recumbent position, the inflammatory symptoms disappeared in three days. As the chancroids were still active, I touched them with an ethereal solution of iodoform (ʒj to ℥j), and in a few hours an erythematous œdema, nearly as severe as the first, was produced. There was no systemic reaction.

Case II.—A man, aged thirty-two, syphilitic four years, having extensive rupial syphilide, was under my care at Charity Hospital in the summer of 1884. So wretched was his condition that it was thought best to conciliate the stomach with easily digestible food before beginning internal medication. The crusts were soaked with oil, and those on the left leg removed at the first séance. The exposed ulcers were washed, and then quite freely dusted with iodoform, and the limb bandaged. That night the man slept very little, and complained of great burning and tension in the diseased parts. The next day a deep-red erythematous eruption had spread from the leg to the thigh. There were elevation of temperature, severe frontal headache, and giddiness and absolute anorexia. The erythema, which was very superficial, appeared about the neck and shoulders and increased rapidly, and merged with the invading erythema of the thigh, and in forty-eight hours covered the whole body. The appearances were those of scarlatina. There were no throat symptoms, nor had the patient taken quinine or any medicine surreptitiously. The use of iodoform was discontinued, and the rash faded, with decided exfoliation, in about four days.

Case III.—A woman, aged twenty-eight, syphilitic four years, was admitted to Charity Hospital in the fall of the year 1882 for an extensive gummatous ulcer of the left leg. It was freely dusted with iodoform, and a retentive bandage applied. Two days later she complained of a burning and throbbing pain of the part. She had diarrhœa and vomiting, complained of great frontal pain, had delusions, and was utterly prostrated. An œdematous erythema, almost as pronounced as that of erysipelas, beginning in the bandaged leg, invaded the thighs, buttocks, and hypogastrium. Fully two weeks elapsed before this woman's local and general condition was as favorable as it was prior to the use of the iodoform. She had taken iodide of potassium prior to the appearance of this drug eruption, and did so afterward with impunity.

Case IV.—A woman, aged twenty-six, in the fourth year of syphilis, was attacked in June, 1885, with infiltration in the inguinal ganglia of the right side, which were excised and curetted. The case was much retarded by the constant appearance of new infiltrated ganglia. The woman's general condition was poor, and the wound cavity was slow to heal under iodoform and gauze. On the twelfth day, shortly after a healthy healing surface had been observed, the wound became unhealthy in appearance, its surface pale, flabby, secreting no pus, but a scanty and bloody serum. The integument around it upon the hypogastrium and groin became painful, red, and œdematous. Within twenty-four hours a patch, fully ten inches in diameter, was the seat of this erythema, which was sharply marginated. On the second day groups of papules and papulo-vesicles and pustules developed, and the appearances were much like those of erythema multiformis of severe type. Under appropriate treatment the erythema fully disappeared by the eighth day. Coincidently with the appearance of the rash the patient became weak, restless, dizzy, and drowsy. Temperature was 101° F., and urine was scanty and albuminous, but showed no casts nor blood. At no time was more than a drachm of iodoform used in the wound cavity, and just before the morbid outburst about half that quantity was used.

Case V.—For the history of the following case I am indebted to my friend, Dr. A. G. Gerster. A. B., a laborer, aged thirty-four, was admitted into the German Hospital, January 2, 1887, on account of an ulcerated stump of the right thigh. Reamputation was performed, January 7th, just above the condyles. Drainage-tubes were inserted, and the wound was dressed with iodoform and corrosive sublimate gauze. On January 8th an intense erythema of thigh and thorax, also of face, arms and hands, and left lower extremity—in fact, of the whole body—appeared. Eruption resembled scarlet fever. The patient had not taken quinine. Severe itching was experienced all over body. No systemic symptoms were observed.

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* Read before the American Dermatological Association at its eleventh annual meeting.

January 10th.—A change of dressing to boro-salicylic lotion was made. Wound united by primary adhesion. Erythema about the line of union, where the iodoform gauze had been applied, has become the seat of bullæ.

11th.—Erythema has disappeared, leaving desquamation over the thighs, abdomen, and gluteal regions.

Case VI.—Zeissl's first case * was that of a boy three years of age upon whose leg was an ulcer which was dressed for fourteen days with iodoform, when his temperature rose to 105° F., and he became drowsy and vomited and passed albuminous urine. At this time a sharply outlined erythematous eruption appeared on the flexor aspect of the upper part of each arm and on the inner aspect of each thigh, with islands of unaffected skin. Discontinuance of the use of iodoform was followed by fading of the rash and cessation of the morbid symptoms. A second application caused a similar result in two days. After that the drug was still used and the patient became gradually accustomed to it, so that it no longer produced an inflammatory reaction.

Case VII.—The second case was that of a man, aged thirty-six, having caries of the rib with sinus. This was treated with a pencil of iodoform every second day, when after ten days an erythema urticata in circumscribed patches appeared on the flexor aspects of the limbs.

Case VIII.—Janowsky † reported the following five cases at the International Medical Congress at Copenhagen:

1. A man, aged twenty-eight, having soft chancres which were dusted with iodoform, was attacked with fever, and an erythema appeared on thighs, right hypogastrium, and lumbar region. The temperature remained elevated two days; the erythema extended to the left side and grew pale in three days. The iodoform being still used, the eruption invaded the forearms and disappeared in two days with desquamation. Temperature was normal during the latter part of the attack. In this case, as in others observed by this author, continued use of the drug caused a repetition of the appearance of the exanthem.

2. A man, aged twenty-two, had an ulcer on the sulcus glandis, and an open bubo, which was treated with a permanent iodoform dressing. In twenty-four hours an eruption of small red papules appeared on the hypogastrium which in places became confluent. On the third day a similar eruption appeared on the left forearm, which later on, like the former, became a diffuse erythema. Still later the buttocks were similarly invaded. The eruptions disappeared rapidly, there being slight scaling. There was no fever at any time.

3. A man, aged thirty-one, had a scattered ulcerating syphilide. Some of the ulcers on the legs were scraped and dressed with iodoform. On the next day the patient complained of severe itching on the thighs, and in two days a symmetrical eruption resembling erythema iris appeared on the thighs and legs which disappeared in two days with slight desquamation. Fourteen days later a similar application was made, and was followed by an erythema similar to the first one.

4. A man, aged twenty-four, had soft chancres on the penis, and a bubo, which had been incised and dressed with iodoform. Three days later there was a rise in temperature, and an erythema appeared on the surrounding parts and extended to the hip, the buttocks, and the chest. The congestion was so great that hæmorrhage took place from some of the papules seated on the erythematous surface. Three days after the substitution of bichloride gauze for the iodoform the eruption disappeared. But when the latter was again used, some days later, the eruption reappeared.

5. A man, aged forty-eight, had an ulcerated gumma of the left calf which was dressed with iodoform. No internal treatment was ordered. In three days an erythema appeared on the left thoracic region, the back, and the left shoulder-blade, accompanied with a mild but ephemeral fever. Very soon large bullæ formed on the reddened surface and ran a similar course to those of pemphigus.

Case IX.—Dr. Köster-Syke * gives his personal experience very graphically as to the action of both carbolic acid and iodoform on the integument. The latter was to him a veritable poison, even if he merely came near it. A short time after using it in his professional capacity he experienced a fearful itching of the whole body, slight elevation of temperature, and during the night his face and hands up to the elbows became red, swollen, and the seat of large bullæ. For three or four days so great was the swelling of the face that his eyes were closed. For a long time he ceased to use iodoform in his practice, but later on ventured to use it about the eyes of his patients, taking all precautions, even to wearing kid gloves, in order that none of the drug should come in contact with his skin. In spite of this care, in ten minutes he experienced itching on the hands and face, which during the evening became red and swollen. Such was his suffering from simply smelling the drug.

Not long ago I was consulted by a young man for obstinate ulceration of the prepuce following herpes, who requested me particularly not to prescribe iodoform, since upon two occasions when he had used it his room-mate had suffered severely from coryza and swelling of the eyelids.

Case X.—Treves reports the following case: † A well-developed, healthy girl, aged thirteen, was admitted, in April, 1886, into the London Hospital with a simple ununited fracture of the left ulna. On May 8th the fracture was cut down upon and at first dressed with Lister's gauze, which, two days later, was replaced by iodoform. No ill effect of the drug was experienced until the end of May, when the wound had become very shallow. Then, when comparatively little iodoform was being used, on June 1st, the entire forearm became evenly swollen and œdematous, slightly red and tender. From this time on for several days there was elevation of temperature. Soon a crop of vesicles appeared on the morbid surface, limited to the forearm but not to the wound. On June 2d the use of iodoform was discontinued and the rash was healing. Three days later, after the discontinuance of the use of iodoform, after a few hours of severe headache and giddiness, a rash, limited to the left forearm, arm, and shoulder, made its appearance. In a day it spread to the neck, face, and chest. The eruption, seated on the erythematous surface, consisted of pin-head sized, pale-red papules grouped together in clearly defined patches of the sizes of a five-cent nickel-piece and of a half-dollar. At the end of the second day the eruption had disappeared. On the day after its appearance the wound had assumed an unhealthy look. In a few days healing began and the patient was discharged cured.

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* "Zwei Fälle von Jod-Exanthem nach äusserlicher Anwendung des Iodoforms," "Allg. Wien. med. Ztg.," xxvi, 455, 1881.

† "Vierteljahrsschrift für Dermatologie und Syphilis," pp. 495 *et seq.*, 1884.

* "Hochgradige Idiosynkrasie gegen Iodoform und Karbol," "Deutsche Medizinal-Zeitung," April 26, 1886.

† "The Iodoform Rash," "Practitioner," October, 1886.

CASE XI.—A man, aged twenty-seven, had, in January of this year, a suppurating bubo, which after incision I curetted, dusted the cavity with about a drachm of iodoform, and then stuffed it with plain gauze, retained by a spica bandage. During the night he suffered from great heat and itching in the wound, and on the following day at 5 P. M. I found an erythematous rash, which had extended from it nearly to the umbilicus and half-way down the thigh. Excepting the burning and itching sensation, there was no systemic involvement whatever. On the third day after operation the eruption presented every feature of a severe eczema madidans. Under treatment, in a week resolution had nearly taken place, there still being, however, slight infiltration and scaling. The singular point in this case is that the chancroids which caused the bubo were promptly healed by iodoform without any unpleasant complication.

CASE XII occurred in the person of a physician, aged thirty-six, who came to me in his fourth year of syphilis. He gives his experience as follows: "Iodoform is to me poisonous in a very high degree. The effects are the same whether I use it locally or whether I only handle it in treating patients. My sufferings are in proportion to the amount of the drug used. About three hours after having used it, a sensation of intense heat is felt in my head. My face becomes flushed, hot, and itchy, my nose and eyes run profusely, and my feet are hot and sore. In the mean time different parts of my body are similarly affected, such as the hands, neck, shoulders, penis, scrotum, and a spot over the sacrum. When this period of heat is in progress, the affected parts become of a deep-red color and excessively itchy. In less than two hours the parts become greatly swollen and covered with myriads of small vesicles, superficial and deep, which contain a yellowish serum. The more superficial vesicles will break of themselves and ooze profusely, an odor of iodine being perceptible. The larger and deeper vesicles, which are seated on parts with quite thick epidermis, usually fuse together into patches. The process is especially severe upon the fingers and toes and around the matrix of the nails. The nostrils and the inside of the nose for some depth are usually affected very severely, become swollen, oozing, and covered with crusts. This same eczematous condition also affects my face and beard. After several days have elapsed under treatment, the intensity of the morbid process diminishes, the itching and discomfort become less, the swelling slowly subsides, the crusts fall, and in a short time the thickening and redness of the skin disappear. If, however, proper treatment is not adopted, a well-marked eczema results which is exceedingly difficult to cure." On one occasion these toxic phenomena were caused by the patient simply handling a box which contained iodoform, not a particle of which came in contact with his skin. Headache, great weakness, want of appetite, and restlessness are also experienced. This patient thinks that he is more susceptible to the influence of iodoform when he is taking iodide of potassium or some preparation of iodine. I watched the progress of eczema from iodoform in this case, seated on the hand, fingers, and face. It was typical in all its features, and differed from the eruptions of other cases of iodoform poisoning in showing the tendency to chronicity.

CASE XIII occurred in the service of my colleague, Dr. A. W. Stein, in Charity Hospital. It was that of a man, aged thirty, having several chancroids and severe balanitis. A few hours after dressing the parts with a small quantity of iodoform the patient experienced great heat and burning in the penis and scrotum, and an erythema appeared, which promptly developed into typical eczema madidans, which extended nearly to the umbilicus and down the thighs for a few inches. There were no constitutional symptoms. A cure of the rash was effected in about a week.

CASE XIV occurred in the practice of Dr. J. H. Putnam, of Rutland, Vermont. I quote his words: "The patient, a healthy young woman, had catarrh of the middle ear, and I used iodoform dissolved in alcohol upon cotton in an inflator. In about four hours the face began to tingle and burn, and soon became very painful. This was followed by redness, swelling, and vesiculation, which went on rapidly to pustulation. All these morbid symptoms subsided as rapidly as they appeared. After three weeks a similar application was made to the ear, with the same result as before. A new inflator was used and no bad result followed until it was carelessly put in the same drawer with the old one. Its use was then followed by similar but milder symptoms. During the first attack she had slight febrile action, but there was none afterward."

CASE XV is of especial interest. The patient is a man, sixty-one years of age, who has worked in many minor capacities in Charity Hospital. Seven years ago, when, as boatman, his duties caused him to undergo cold exposure and contact with salt water, he suffered from an ulcer of the leg, which was dressed by one of the orderlies with iodoform ointment. Soon after an acute and severe eczema appeared on the hands and face. This was seen by several of the hospital surgeons, who attributed it to exposure. As the eruption resisted treatment while the man was careful to have his leg dressed with the iodoform salve, and as it grew better and even disappeared when he was irregular or ceased to have the applications made, he became convinced that the iodoform ointment applied to his leg caused the eczema of the hands and face. He discontinued the use of the ointment, and his eczema disappeared without any treatment, after having resisted the most careful use of proper remedies. Four years later he allowed an interne to experiment on him by applying an iodoform ointment to a cut, and as a result was promptly attacked on the face and hands with eczema. In January of this year he received a severe cut on the right wrist, which was dressed by an orderly with iodoform. Within twenty-four hours eczema appeared as before, and ceased on the discontinuance of the use of the drug. There were no systemic symptoms.

A case similar to this is reported by Neisser * as occurring in the person of a colleague who for some months suffered from an extensive eczematous eruption, the cause of which and of its continual recurrence they were unable to discover. Later on, when Neisser treated an injury to his patient's foot, he found that he had the iodoform idiosyncrasy, and that his eczema was wholly due to the action of that drug. He has since avoided it, and no longer has the eruption.

CASE XVI.—Fabre † reports the following: A syphilitic man, aged twenty-seven, having suffered from manifestations of an ulcerative and gummatous nature, and also from eczema, had upon the upper lip, near the left commissure, a rupial-looking patch, which was uninfluenced by internal treatment. An ointment of iodoform and benzoated lard (1 to 15) was then applied. Following the first application, an abundant serous

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* "Ueber Iodoform-Exantheme," "Deutsche med. Wochenschrift," July 24, 1884.

* "Éruption eczémateuse provoquée par l'application d'une pommade à l'iodoforme chez un syphilitique," "Gazette méd. de Paris," October 11, 1884.

discharge was observed upon the sore, and soon the integument of the whole face and head became red and swollen and the seat of exudation and itching. Under appropriate treatment the acute symptoms were relieved in a few days, and the iodoform ointment was again used, when the eczematous eruption appeared again with greater violence. Yet a third time was the same ointment applied with similar results. A strange feature of this case was that a year previously iodoform in powder had been used upon some ulcers without any bad results.

Case XVII was reported by Fifield.* It was that of a young woman who suffered from deep ecthymatous ulcerations which had resisted mercurials and the iodides. One day several crusts were removed from the hands and from the left temple, and the surfaces left were dusted with iodoform. The next day, as nothing unpleasant had happened, the crusts of three other ulcerations of the scalp were removed and the surfaces were lightly dusted with the powder. Within a few hours the whole scalp became swollen and exuded a profuse serous discharge, and, in fact, presented the appearance of an acute eczema. There were no constitutional manifestations. The eruption disappeared in a week.

Case XVIII, reported by Goodell, † was that of a woman, forty years old, of irregular habits, who had had, seven years previously, ragged and indolent ulcers, which had left scars. In August, 1881, she had a ragged ulcer of more than an inch in diameter on the chin, a little to the left of the median line Various modes of treatment having failed, in the following March an ointment—an iodoform ointment (fifteen grains to the ounce)—was ordered. After its use for nine days the face became red, swollen, and covered with vesicles, and from it exuded a yellow serum. The eruption was accompanied by intense smarting and burning and a sense of tightness of the skin. The patient became slightly delirious, with weak and irregular pulse.

No.	Reported by—	Sex.	Age.	Nature of skin lesion.	Time of appearance.	Constitutional symptoms.
1	Taylor.	M.	21	Intense erythema.	3 hours.	None.
2	"	M.	32	Erythema scarlatiniforme.	Few hours.	Anorexia, fever, headache, and giddiness
3	"	F.	28	Erythema erysipelatodes.	2 days.	Vomiting, diarrhœa, headache, delusions, fever.
4	"	F.	26	Erythema multiforme.	12 days.	Fever, malaria, dizziness, and drowsiness
5	"	M.	34	Erythema scarlatiniforme.	Second day.	None.
6	Zeissl.	M.	3	Erythema.	14 days.	High fever, vomiting, & albuminous urine
7	"	M.	36	Erythema urticatum.	10 days.	
8	Janowsky.	M.	28	Erythema.	Probably 1 day.	Fever.
9	"	M.	22	Papular erythema.	24 hours.	None.
10	"	M.	31	Erythema.	48 hours.	None.
11	"	M.	24	Papular erythema.	Third day.	Fever.
12	"	M.	48	Erythema bullosum.	Third day.	Mild fever.
13	Köster-Syke.	M.	Not given.	Erythema bullosum.	Short time.	Not given.
14	Treves.	F.	13	Papular and vesicular erythema.	14 days.	Fever, headache, and giddiness.
15	Taylor.	M.	27	Eczema madidans.	1 day.	None.
16	"	M.	36	Eczema madidans.	3 hours.	Headache, loss of appetite, nervousness, and malaria.
17	Taylor & Stein.	M.	30	Eczema madidans.	Few hours.	None.
18	Putnam Hith'rto unpub.	F.	About 20	Eczema rubrum.	Few hours.	Slight fever.
19	Taylor.	M.	61	Eczema madidans.	Few hours.	None.
20	Fabre.	M.	27	Eczema madidans.	24 hours.	
21	Fifield.	F.	Y'ung	Eczema madidans.	24 hours.	None.
22	Goodell	F.	40	Eczema madidans.	9 days.	Mild delirium, weak and irregular pulse.
23	Janowsky.	F.	16	Purpuric spots.	Third day.	None.
24	Hoepfl.	F.	37	Red spots.	Uncertain.	Death on 10th day; fatty degeneration of heart, liver, and kidneys.

Case XIX is Janowsky's sixth case. A girl, sixteen years old, anæmic and neurotic, had a patch of lupus tubercles and ulcers on the right thigh, which were scraped, scarified, and dressed with iodoform. Three days later purpuric spots appeared over the surrounding skin, and continued to develop as far up as the breasts. Discontinuance of the use of the drug was followed by the disappearance of the spots. Fourteen days later it was applied again, with the same result as at first. There was no elevation of temperature, nor rheumatism, nor were there any symptoms pointing to purpura rheumatica.

Case XX is one of the four cases reported by Hoepfl * of systemic iodoform poisoning. The patient was a woman, aged thirty-seven, whose breast was amputated and the wound dressed with iodoform (ten grammes) and iodoform gauze. Severe sensory disturbances were developed, and an exanthem of red spots over the whole body appeared. Death took place on the thirteenth day. Fatty degeneration of the heart, liver, and kidneys was found.

A clear idea of the most important features of these cases is given in the accompanying table.

In sixteen of these cases we find the association of constitutional symptoms in varying degrees with a well-marked exanthem. In nine cases the rash existed alone, without any apparent systemic reaction to the toxic agent. As a corollary to this we have the facts presented by the statistics compiled by Cutler † in his admirable article on "Iodoform Poisoning," which should be widely read, in which are given the main points of seventy-seven cases, all of them showing more or less grave constitutional disturbance, and yet in but five of them was there a history of a co-existent rash. The same features are presented by the more recent statistics of Willemer.‡ The conclusion is obvious that the toxic effects of iodoform are observed more frequently in the form of systemic involvement than in that of cutaneous manifestations, and, further, it may be said that it may set up inflammatory disturbances of the skin without any apparent constitutional reaction.

The nature of the skin lesions due to this agent may be concisely stated under the head of dermatitis; but they may, for the sake of accuracy, be further subdivided as follows, according to their relative frequency: First, erythema; second, eczema; and third, purpuric spots.

The erythemata due to iodoform present many of the features of similar simple eruptions, and to those due to other drugs. Their mode of invasion is prompt, and their extension rapid. They may increase from an original focus of contact with the drug, and extend over parts of or over the whole body, or they may also thus begin and be met with patches which have developed in parts remote from the point of invasion. Then, again, a more or less general erythematous rash may follow the simple act of smelling the agent, without any contact whatever. Reaching their full evolution in one or several days, they, under favorable circumstances, rapidly undergo involution, behaving much like the ordinary erythemata, except that their course is usually even more rapid.

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* "Boston Med. and Surg. Journal," March 16, 1882.

† "Boston Med. and Surg. Journal," April 9, 1885.

* "Aerztl. Intelligenz-Blatt," xxx, München, 1883.

† "Boston Medical and Surgical Journal," July 29 and August 5 1886.

‡ "Centralblatt für Chirurgie," No. 50, 1886.

Various forms of erythema have been noted. In some instances it is a very superficial and comparatively mild, pinkish exanthem; in others it is still superficial in character, but very deep in hue, and may be termed scarlatiniform, so great is the dermal congestion. Then, in rather exceptional cases, and usually in those presenting more or less grave constitutional symptoms, the erythema presents, in its hue and brawny feel, points of resemblance to erysipelas. While some cases have presented lesions similar to erythema iris and erythema urticatum, others have been observed of the papular, vesicular, and bullous forms, and come under the head of erythema multiforme. The toxic action of iodoform, therefore, may show itself on the skin in all of the forms of erythema.

The eczema caused by iodoform is usually of severe form and of rapid evolution. It may begin at the point of contact with the drug, or it may develop in parts far distant, or again appear in one or in several spots—such as the hands, face, and trunk—simply from smelling of the drug. Its character is pronounced from the first; much surface is rapidly involved; the erythema and infiltration go promptly on to vesiculation and the formation of a well-marked weeping surface, in all respects similar to the ordinary eczema madidans. In most cases the involution is almost as rapid as the evolution, provided the toxic agent is removed. But in some instances, perhaps of debility of marked eczematous tendency, or of excessive idiosyncrasy, the affection shows a tendency to become chronic. It is usually very amenable to treatment. My statistics show that eczema occurred nine times in twenty-four cases, being a ratio of forty-three in a hundred.

I am unable from my own observation to say anything as to the occurrence of purpuric spots as a result of iodoform intoxication. Janowsky reports such a case, in which the spots appeared on the third day, strange to say, without any co-existent systemic symptoms. Further observation is necessary upon this branch of the subject.

A mild form of erythema is often seen on the hands of dressers, nurses, and orderlies in hospitals, and of those who manufacture iodoform gauze, which has no specific characteristics whatever, and is comparable to the simple irritation produced by any drugs, such as mustard or the tarry preparations.

The date of appearance of these iodoform exanthems is interesting. In twelve cases the rash began within a few hours on the first day, in three on the second, three on the third, one on the ninth, one on the tenth, one on the twelfth, and in two on the fourteenth day. In one half of them, therefore, we find that the toxic action began very early. This is in marked contrast with the statistics of the cases of systemic poisoning, in the majority of which the morbid symptoms began in the second week. As a rule, it may be stated that, in proportion as the rash is slow in appearing, so are the concomitant symptoms severe. The cases reported seem to warrant the belief that the earlier the date of evolution of the rash, the more general and exanthematic it is.

The age of those patients showing a tendency to this form of toxic action of iodoform is noteworthy. Three patients had not yet reached puberty, eleven were between twenty and thirty, seven were between thirty and forty, and one was sixty-one years of age. The statistics seem to show that this form of intoxication is most frequent in youth and middle age, in contrast with the severe forms, which occur more often in the aged.

The concomitant symptoms present much variation, since in nine cases they were absent, were mild in eight, and severe in five cases, in one of which death occurred.

It is probable that we shall have no more of those dreadful fatal cases, since we have now learned how to use the agent intelligently, and since it has been largely replaced by the bichloride dressing. Though thus limited, its use will still be very extended, since its action in promoting healthy granulation is more efficient than that of any other known agent. While we certainly shall not use quantities such as one hundred to two hundred grammes, which, strange to say, in some cases have produced no untoward results, we must bear in mind the fact that grave symptoms of poisoning have followed the use of fifteen grains and less.

The systemic symptoms presented in the foregoing cases varied considerably in degree. I am in accord with Cutler, who adopts Nussbaum's division of the symptoms of iodoform poisoning, making three degrees.

The first is comparatively mild. A loss of appetite, headache, disturbance of disposition by excitation or depression, a mild delirium or loss of memory, and sleeplessness may be observed.

In the second degree there are absolute anorexia, an intensification of the head symptoms, perhaps dementia, mania, or melancholy, weak and rapid pulse, mild fever, and emaciation.

The third degree is a continuation and intensification of the second. Such patients lie perfectly abject in sopor, with a rapid, thready pulse and a cold surface, and die in collapse.

The systemic symptoms in the majority of cases of iodoform exanthems belong to the first and second degree. In but one case did they go on to the third degree and end in death.

The origin of these exanthems in the toxic action of iodoform being beyond dispute, the interesting question suggests itself, In what way does the drug act? Certain of the cases show that at a given spot irritation of a high grade began, and from that form extended until much surface was involved in acute inflammation. The morbid process is, therefore, what is termed "contagion by continuity," in which healthy areas around a morbid one become affected. It is simply a local inflammatory process. This form of iodoform rash, itself an eczema, has its analogue in the eczema caused by mercurial ointment.

The diffused erythematous rashes of iodoform and the eczematous form developing at several different sites can hardly be accounted for in this manner. Their history shows, as a rule, that there is more or less systemic reaction, and that they are probably angeio-neuritic in origin. They have their analogues in the quinine and antipyrine exanthems. The same origin undoubtedly exists in the cases in which the mere smelling of the drug gives rise to severe local and general symptoms. Iodoform exanthems have no points of resemblance to those of iodide of potassium except in the erythema, but differ in being more ephemeral and less prone to hæmorrhagic exudation.

A consideration of all the facts presented by the foregoing cases shows clearly that, if we attempt to explain the ultimate origin of the morbid phenomena by the term idiosyncrasy, we must concede much latitude to that vague factor. In most of the cases of eczema caused by iodoform I am of the opinion that the irritating influence of the drug is equally an important factor as the individual peculiarity, and that the same facts apply to eczema provoked by mercurial ointment.

The cases, however, which, for want of a more precise term, I designate as of angeio-neuritic origin, can only be explained by the term idiosyncrasy or the mystery of individuality. I think that too much stress has been laid upon this indefinite factor by writers upon the severer forms of iodoform poisoning. In most of the cases the agent acted as a poison pure and simple. In those instances in which large quantities of the drug were used with impunity the probability is that for some occult reason absorption did not take place. Certain it is that, in all experiments on animals, where the agent was administered by the mouth or by subcutaneous injection, toxic phenomena promptly followed.

The practical lessons taught by the collective knowledge of the nature and action of iodoform should be well remembered, and may be concisely stated as follows:

A. Its use is indicated: 1. On fresh wounds.

2. On diseased surfaces—gangrenous, chancroidal, phagedenic, syphilitic, tuberculous—and on those slow to take on healthy granulation.

3. On the surface of necrosed bone.

B. Its use is contra-indicated: 1. On freshly cut bone.

2. On granulating surfaces.

3. In cases in which it is known or is found to produce toxic effects.

C. Modes of use: 1. It should be dusted on the surface lightly and sparingly.

2. In wound-cavities or in the natural cavities as small a quantity as possible should be employed; in the former it is preferable to use it in the form of gauze.

3. It should never be rubbed in with the finger.

4. Its application should be renewed as infrequently as possible.

5. Such aids to absorption as tightly fitting bandages and impermeable dressings should not be used.

6. Its use should be discontinued as soon as healthy granulations appear.

7. It should not be used coincidently with any other antiseptics, carbolic acid especially (Mosetig-Moorhof).

8. It should be used with great caution in the young and the old, in anæmic and neurotic persons, and those suffering from weak heart or Bright's disease; also in very fat and flabby subjects.

9. Should toxic symptoms appear, the iodoform dressing must be promptly and thoroughly removed.

D. The occurrence of anomalous forms of persistent or recurrent eczema in persons who handle or in any way come in contact with the drug, or who use it as an ointment or in suppositories in the vagina or rectum, should cause the physician to suspect the agent as the possible cause.

E. It is most important that the practitioner should exercise a watchful care over all patients for whom he prescribes this agent, and should he observe morbid symptoms, however mild, pointing to the brain, heart, or lungs, or a tendency to loss of appetite or emaciation, he should cause the discontinuance of its use at once.

F. The treatment of the skin manifestations is similar in all respects to that of the simple eruptions of the same varieties. Systemic poisoning should be treated symptomatically, since we have no specific.

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THE GRADUAL PREPARATORY TREATMENT OF
THE COMPLICATIONS OF URINARY AND FÆCAL FISTULÆ IN WOMEN,

*Including a Special Consideration of the Treatment of Pyelitis by a New Method, and the Prevention of the Evils of Incontinence of Urine by a New System of Drainage.**

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In the course of my experience in the treatment of urinary and fæcal fistulæ, as I encountered new difficulties, I have described from time to time the cases and the means by which I endeavored to overcome them; but all, especially the more recent of my results, have not been published. The object of the paper, of which this is an abstract, is therefore to set these latter before the profession and to combine them with what I have already written. In this way I hope to communicate in a more systematic manner the results of my experience and observation in this department of the subject of fistula, which have extended over a period of thirty-four years.

The object of my method of treatment, preparatory to the performance of the operation for the closure of a fistulous opening, is to prevent and to overcome the injurious effects of incontinence of urine, and to remedy the complicating injuries and diseases of all the organs involved. In other words, to remove as far as possible the obstacles in the way of the easy performance and success of the final operation, and to cause the diseased tissues to return to a state of health, so that not only will the incontinence of urine be cured, but the functions of all the organs be preserved.

Treatment and Prevention of the Effects of Incontinence of Urine.—Inflammation and ulceration of the vagina, vulva, and buttocks, due to the contact of ammoniacal urine, may be treated in the usual way by cleanliness and stimulating and astringent applications. Although by these measures the sufferings of the patient are relieved to a considerable extent when for any cause the closure of the fistula is long delayed, it is of the utmost importance that we should possess some form of instrument by which the urine may be drained away and its contact with the mucous membranes, integument, and linen of the patient be avoided.

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* An abstract of a paper read before the Section in Gynæcology of the Ninth International Medical Congress.

After many experiments, I have recently devised an instrument which accomplishes these results in a perfect manner, and have also been able to combine, in the same instrument, drainage with the dilatation of cicatricial contractions of the vagina. The forms of the instrument which concern us here are intended to secure drainage alone, and I have called them utero-vesical and utero-vesico-urethral drainage supports. The former is applicable to most cases, to all positions of the body, and is the most convenient. The latter is suited to the recumbent position and to cases where the perinæum is lacerated.

These instruments can be introduced and removed by the patient whenever necessary and without difficulty. They are small, simple, free from angles and sharp borders, are readily kept clean, excite no discomfort or irritation of the vagina, and do not press upon the rectum or bladder, nor interfere with locomotion. While possessing all these qualities, they collect the urine and conduct it away with a degree of perfection that to the patient is a constant cause of wonder and delight. I have now five cases in which the different forms of the instrument are in use. In one of the cases there is entire destruction of the urethra. In all, the instrument performs its functions perfectly.

The Treatment of the Complications of Urinary and Fæcal Fistulæ.—Very few cases of fistula are simple. The same cause, the pressure of the child's head, which produced the perforation of the vesical or rectal wall injures to a greater or less extent other parts of the vagina, and frequently the uterus, ureters, and urethra. These injuries and the distortions of the structures involved, the result of the contraction of the cicatricial material produced in the healing process, constitute the most frequent complications. In the worst cases, to them are added subsequent disease of these organs and the bladder, and fixation of the uterus, the consequence of puerperal cellulitis and peritonitis.

Cicatricial Contractions and Distortions of the Vagina.—General thickening and rigidity of the vaginal walls and narrowing of the vagina by the presence of cicatricial bands and adhesions render the exposure of the fistula difficult, and tend to prevent the easy approximation of its borders. The operation for closing the opening is thus made difficult, and, owing to great tension, the sutures cut and it fails.

The means by which I overcome these difficulties are, mainly, division of the cicatricial material and gradual dilatation of the vagina. In cases in which the vagina is very much contracted my method consists first in the section of all the prominent bands and adhesions, and afterward in the dilatation of the vagina with hard and soft instruments.

When it is necessary to give ether, the patient is placed in the knee-chest position and secured by means of an apparatus which I have had constructed for the purpose. In the ordinary treatment of the case this is unnecessary. I place the patient simply in the supported knee-elbow position. The parts are exposed to view by means of my dilating speculum and perineal elevator, and the bands, which are at the same time rendered tense and prominent by these instruments, are divided while on the stretch by means of sharp and probe-pointed bistouries and the peculiar knife which I show you.

The subsequent dilatation of the contractions of the vagina is produced by hard and soft dilators. On account of differences in form and in the manner in which they are used, I have divided them into two classes—the vulvo-vaginal and intra-vaginal.

The hard dilators which I show you are made to combine drainage with dilatation. The vulvo-vaginal can be distinguished from the intra-vaginal by their greater length, and the beak-like extremity, which rests on the perinæum. The intra-vaginal instruments are worn altogether inside of the vulva, and rest upon the posterior surface of the arch of the pubes and the perinæum. A set of the vulvo-vaginal dilators consists of five sizes, ranging from thirty to fifty millimetres in diameter, and a set of the intra-vaginal of eight sizes, ranging between thirty and sixty-five millimetres.

The soft dilators are made of coarse sponge, torn in pieces, and covered with oil silk, and may be of any size up to seventy millimetres in diameter, or larger if necessary. The difference between the vulvo-vaginal and the intra-vaginal forms of these soft instruments is, that the former are made longer than the latter, but never so large, the sizes being graded like the hard instruments. I have been unable to combine drainage with dilatation when the sponge instruments are used, but, if they are frequently removed, and the urine which they absorb squeezed out, the vagina and vulva may be kept comparatively dry.

Although only a very imperfect sort of drainage, which I have called sponge absorption, can be obtained with sponge dilators, they are superior in many respects to the hard instruments. A much larger dilator can be introduced, and, being soft, it causes less pain. In virtue of its elasticity, the sponge accommodates itself to the shape of the vagina when the organ is irregularly contracted, and, by the imbibition of urine, increases in size after introduction.

Time, patience, and perseverance are all that are necessary to produce, by the gradual division of opposing cicatricial bands and the systematic use of these dilating instruments, a distension of the vagina nearly equal to that caused by the child's head at the time when the injury was done. As the dilatation proceeds, the exact nature of the lesions present becomes more evident, and the form and the relations of the fistula to the surrounding structures are more distinctly exposed to view; the cervix uteri, which was perhaps altogether hidden, becomes visible and the anterior and posterior *culs-de-sac* are restored; the vaginal walls are relaxed and the uterus made movable; the mucous membrane of the vagina loses its fiery red hue and assumes a natural pink color; the inflammatory thickening of the vaginal walls melts away beneath the pressure, and the borders of the fistula lose their leather-like hardness, become smooth and soft, and may be more easily approximated.

Fixation of the Uterus.—When there is great loss of tissue at the fistulous opening and the uterus is fixed, the remnants of the septum can never be sufficiently stretched to bridge the interval. The uterus must be rendered movable, so that the cervix can be drawn down and made subservient to the closure of the opening.

The fixation of the uterus may be overcome by upward pressure, made with the dilators already described, and by a sort of passive motion of the uterus, which is secured by traction, frequently repeated, with a hook fastened in the cervix.

The practical use of these measures is sufficient to demonstrate their efficiency, but, in order to render the results obtained by them clear to all, I made an experiment, while in Vienna, in a case of fistula in which there was immobility of the borders, due to fixation of the uterus. The results of this experiment have been reported by Bandl.* At the beginning of the treatment the edges of the opening could not be approximated by any amount of force. After section of the band and dilatation of the vagina continued for four days, they could be brought together imperfectly by the exercise of two thousand eight hundred grammes of traction, measured by a scale. After the continuance of the treatment for seventeen days longer, one hundred and twenty grammes were sufficient for this purpose, and the operation for the closure of the fistula had become easy.

The advantages secured by the use of these preparatory measures are also well illustrated in certain more special forms of fistula. By the aid of my button suture and these preparatory measures, with the modifications which I have described fully in my paper, I have been able to treat successfully vesico-utero-vaginal fistulæ with incarceration of the cervix uteri in the bladder, restoring the cervix to its natural position in the vagina and closing the vesical opening without the formation of a pouch in the bladder; I have been able to reach and to close vesico-utero-cervical fistulæ, attended with loss of tissue, even when the opening was situated above the vaginal junction, and have met with the same success with recto-utero-vaginal fistulæ, with incarceration of the cervix in the rectum. All these conditions have been and are still considered without remedy, except by kolpokleisis, occlusion of the os uteri, or by the perpetuation of the incarceration of the cervix in the bladder or rectum.

Cystitis, *Contraction*, *and Prolapse of the Bladder* are frequent complications, and must be treated. The principal cause of cystitis is the retention in the bladder of stagnant pools of urine in pouches of the mucous membrane, or as the result of imperfect drainage of the urine through the fistulous opening. The sacculation of the vesical mucous membrane at the base of the bladder is due to the distortion of the anterior wall of the vagina by cicatricial bands. The treatment of cystitis consists, therefore, in the frequent irrigation of the interior of the bladder and the obliteration of the folds of the mucous membrane by dilatation of the vagina.

Atrophy or contraction of the bladder is best treated by obturation of the fistulous opening by means of an oil-silk sponge dilator placed in the vagina. A sufficient quantity of urine is thus retained in the bladder to gradually distend its walls. A prolapsed bladder should be reduced in the supported knee-chest position, the abrasions of the mucous membrane touched with nitrate of silver, and the reproduction of the condition prevented by filling the vagina with one of the forms of dilators already described.

Injuries of the Ureters.—One of the ureters may be opened by a slough which does not penetrate the whole thickness of the septum. By an injury of this kind a uretero-vaginal fistula is produced. One or both of the ureters may also form a part of the border of a vesico-vaginal fistula. In the first form of injury the ureter must be turned into the bladder before the fistula is closed, thus converting it into a vesico-uretero-vaginal fistula. In all cases, when the ureters are involved, unless they are slit up on their vesical surfaces, their orifices are liable to be obstructed by the sutures or to be occluded by the apposition of the borders of the fistula. This little operation is best done, as a preparatory measure, long enough before closure of the fistula to allow healing to occur. Stenosis and eversion of the orifices of the ureters frequently occur in these cases, and it is therefore important to ascertain, before closing a fistulous opening, whether these conditions exist. When such a condition is present, the lower part of the ureter should be divided and the incision should extend through the vesical mucous membrane, and be followed by dilatation with sounds if necessary.

Pyelitis.—The causes which lead to the development of pyelitis, as a complication of fistula, are cystitis and obstruction of the ureter or ureters. The principal symptoms which I have observed to be present in this disease are more or less constant pain in the lumbar region, attacks of renal colic, nausea and vomiting, anæmia, emaciation, and the cachexia of chronic suppuration. At times the course of the disease is varied by the occurrence of severe rigors, accompanied and followed by great pyrexia. Pus and blood may be seen to exude from the orifice of the ureter, which is exposed to view by the fistulous opening.

I have recently devised a new method of treatment for this disease, and have used it in two cases, both of which are now cured. It consists essentially in dilating the ureter and washing out the pelvis of the kidney by means of a catheter. In my first case, which I have reported at length in my paper, the pyelitis involved the pelvis of the left kidney, and occurred as a complication of a large urethro-vesico-utero-vaginal fistula implicating both ureters and the greater part of the septum. It was occasioned by the obstruction of the orifice of the ureter, due to the contraction of the cicatricial border of the fistula of which it formed a part. The patient was suffering from frequent paroxysms of renal colic, rigors were occurring at short intervals, and her temperature was constantly elevated, ranging between 102° and 105°.. Pus could be seen exuding in considerable quantities from the left ureter. The patient was emaciated and her complexion was pale and sallow. She was evidently rapidly dying from exhaustion, induced by the fever and the pain. The condition of the patient continued to grow worse and the case more hopeless until December 26th of last year, when I passed a small olive-tipped catheter through the ureter into the pelvis of the kidney. Carbolized water was then injected with a syringe, and a small quantity of fœtid pus washed out. The catheter was allowed to remain in place twenty-four hours without causing any evil consequences, and the irrigation of the pelvis of the kidney repeated at frequent intervals. Afterward the douching was repeated daily, the catheter being introduced and removed without difficulty. The condition of the patient improved after this treatment was begun with remarkable rapidity, the temperature became normal in twenty-four hours, and the pus gradually diminished in quantity, and at the end of six weeks entirely disappeared. The patient has since gained about thirty pounds in weight, her general health has become good, and the fistulous opening is now ready for operation.

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* "Wiener medizinische Wochenschrift," Nos. 49–52, 1875.

In the course of the treatment of this case I made several interesting observations on the relative secreting capacities of the two kidneys, the details of which I have not time to tell you in this abstract. I also caused to be constructed the flexible steel renal sound which I show you. It is intended for purposes of diagnosis rather than of treatment, but was of service in this case in dislodging the detritus from the pelvis of the kidney.

Encouraged by my success in this case, I conceived the idea of extending this method of treatment to cases of pyelitis when no fistulous opening existed. Fortunately, I soon had an opportunity. Mrs. B. came under my care. She gave a history of symptoms similar to those already described. Hæmaturia formed a marked feature of the case, and had continued for three years and a half. The pelvis of the right kidney was suspected, from the location of the pain, to be the seat of the disease. In order to expose the right ureter, an opening was made in the bladder at the point where it pierces the vesical mucous membrane.

The name which I suggest for this new operation is kolpo-uretero-cystotomy; it is appropriate because it corresponds with the established nomenclature, and serves to distinguish the operation from kolpo-cystotomy done for cystitis, and kolpo-ureterotomy, which may be done in future.

When the orifice of the ureter was thus exposed, blood was seen exuding from it. The ureter having been made accessible, the subsequent treatment was the same as in the previous case, and the result equally fortunate. The discharge disappeared in a few weeks. The use of my utero-vesical support prevented all inconvenience from incontinence of urine, and made the patient so comfortable that haste in closing the opening was considered unnecessary. She was therefore sent home to Charleston, and instructed to return for this purpose when she was stronger and fully restored to health.

She wrote me on August 12th the following report of her condition: "The drainage works perfectly. There is no escape of urine, except sometimes a little while lying down. I do not suffer from any irritation whatever. The instrument keeps the uterus in position. I have not suffered any pain in the kidneys. I feel better than I have for years. I have just been weighed, so will acquaint you with the numbers—one hundred and nine pounds, having gained nineteen pounds in three months (that is, since the operation). I am able to attend church services. I can either ride or walk. Neither gives me any uneasiness. My friends look at me, and speak of my improvement with astonishment."

All the complications of gravity of urinary and fæcal fistulæ having now been studied, what I have already said may be, in conclusion, enforced by a brief summary of certain important facts and principles, and an enumeration of the results that I believe may be secured by the employment of the methods of treatment which I have described.

1. The importance of the complications has not been duly appreciated. They form in many cases the principal difficulty in the way of the successful performance of the operation for the closure of the fistulous opening. In other cases, when the fistula is cured but the complications left without treatment, they lead sooner or later to suffering or to the death of the patient. The greatest care should, therefore, be taken to discover and remove them.

2. Kolpokleisis, occlusion of the os uteri, and incarceration of the cervix in the bladder or rectum, are unjustifiable operations. They destroy the functions of the genital organs, and lead to cystitis, the formation of renal and vesical calculi, pyelitis, and other grave diseases. Moreover, they are unnecessary operations. By means of the gradual preparatory treatment of the complication, and by the aid of my button suture and dilating speculum I have been able to overcome all the difficulties which have been described as indications for their performance.

3. The association of intra-vaginal drainage with dilatation of the vagina is a great improvement. The inconvenience and evil effects of incontinence of urine are thereby lessened, and the duration of the treatment is shortened by the more rapid healing of the incisions and the formation of less cicatricial material in the reparative process.

4. We now possess a means of palliating the suffering due to incontinence of urine in the small percentage of cases of fistula which are incurable by any method—even the dangerous one of kolpokleisis. I believe some form of drainage instrument may be adapted to every case, and these patients may be thus restored to the enjoyment of life and the performance of its duties.

5. The possession of a system of drainage will widen the scope of the operation of kolpo-cystotomy done for cystitis by removing the evils of incontinence of urine, now the chief objection to its performance.

6. Finally, I believe the operation which I have called kolpo-uretero-cystotomy, followed by the exploration and treatment of the diseases of the ureter and pelvis of the kidney, has a brilliant future of usefulness before it. In the treatment of pyelitis, renal calculi, and obstruction of the ureters, it will restrict within narrow limits the operations of nephrotomy and nephrectomy.

Trichinosis.—It is announced from Hamburg that a severe outbreak has just occurred there. In one house alone nine persons are suffering from the disease. The authorities have seized a number of living hogs, as well as a quantity of pork, believed to be infected with the dangerous parasite. The outbreak is stated to be due to the German habit of eating uncooked ham, and often pork, in a half-raw state.—*Lancet.*

REPORT OF A CASE OF PANCREATIC CYST

TREATED SUCCESSFULLY BY INCISION AND DRAINAGE.

SUBSEQUENT DEATH FROM DIABETES.

BY WILLIAM T. BULL, M. D,
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SHORTLY after the exhaustive monograph on the surgical treatment of cysts of the pancreas by Senn * came under my notice, the following case presented itself. For the information necessary to establish the diagnosis and adopt the proper surgical treatment I am wholly indebted to that essay, while I have derived much assistance from Dr. Charles E. Hackley and his internes, Dr. H. Van Rensselaer and Dr. G. H. Richards. The small number of cases on record makes it desirable to report the case as fully as possible.

A clerk, forty-five years of age, was admitted into Dr. Hackley's service at the New York Hospital, July 7, 1886. Dr. Van Rensselaer, the house physician, made the following record: The patient has had malarial fever, but has neither rheumatic, syphilitic, nor alcoholic history. He was well until about ten months ago, when he had a sudden colicky pain in the abdomen lasting a few hours. Two days later he vomited a dark-colored material, was sore and tender in the region of the liver, and became jaundiced. Four weeks later a swelling appeared above the navel and increased rapidly in size without pain for ten weeks. At the end of this time he had abdominal pain and diarrhœa. The stools were very dark-colored and the abdominal swelling disappeared. Three weeks after this the swelling reappeared and increased in volume till during the month past, when it has been stationary. He has lost flesh and strength, has a poor appetite, and the stools are light-colored.

Physical Examination.—He is moderately emaciated, but has no œdema. The pulse, as shown by sphygmograph, has a rather high tension. There is no apparent thoracic lesion, and the apex-beat is in its normal place. The hepatic dullness extends from the upper border of the sixth rib to the free border of the costal cartilages. The spleen is not enlarged. There are no enlarged glands. The epigastric, umbilical, and inner part of both hypochondriac and lumbar regions are distended by a smooth, tense, fluctuating, non-adherent tumor, slightly tender in its upper part. It is most prominent midway between the sternum and the navel (Fig. 1). Here the circumference is thirty-three inches and a half. There is no hydatid fremitus, but a "wave impulse" on palpation. Percussion over it is dull, except at its upper middle part and occasionally at its right border, where there is tympanitic resonance (Fig. 2). In this latter situation a tympanitic swelling (colon or duodenum) appears suddenly and can be made to disappear by pressure. The tumor moves up and down with the respiratory movements, has a slight lifting, but no expansile pulsation. No murmur is heard over it. After inflating the stomach with a Seidlitz powder, the percussion-note was tympanitic over the upper two thirds of the tumor, and the resonant swelling on the right border, which appeared occasionally, extended over to the middle line (Fig. 3). The fluid, drawn with a hypodermic syringe, is dark-brown in color, turbid, odorless, alkaline, and has a specific gravity of 1·010. Chlorides are abundant, but there is no bile, and but a trace of urea. It becomes solid on boiling. The microscope detects degenerated cells, fat globules, granular matter, hæmatin crystals, but no scolices. When kept at a temperature of 100° F. for fifteen minutes with some boiled rice, the fluid resulting contains gr. j of glucose to the fluidrachm. The fluid furthermore emulsifies oil. The contents of the stomach, pumped out before inflation, are only the products of digestion, and have no resemblance to the fluid of the tumor. The fæces contain free fat. The urine is pale-yellow, acid, of a specific gravity of 1·032, without albumin or cast, and contains about gr. x of sugar to the ounce. In the ten days that he was under Dr. Hackley's observation he had a slight rise of temperature—99° and 100° daily. His only symptoms were dyspnœa and acid stomach. The bowels were regular, the stools light in color, and always containing free fat. The urine in quantity varied from forty to

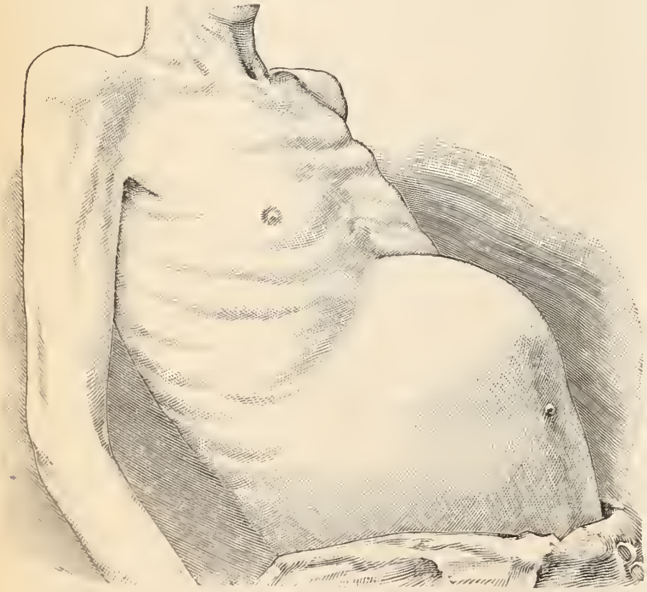

FIG. 1.

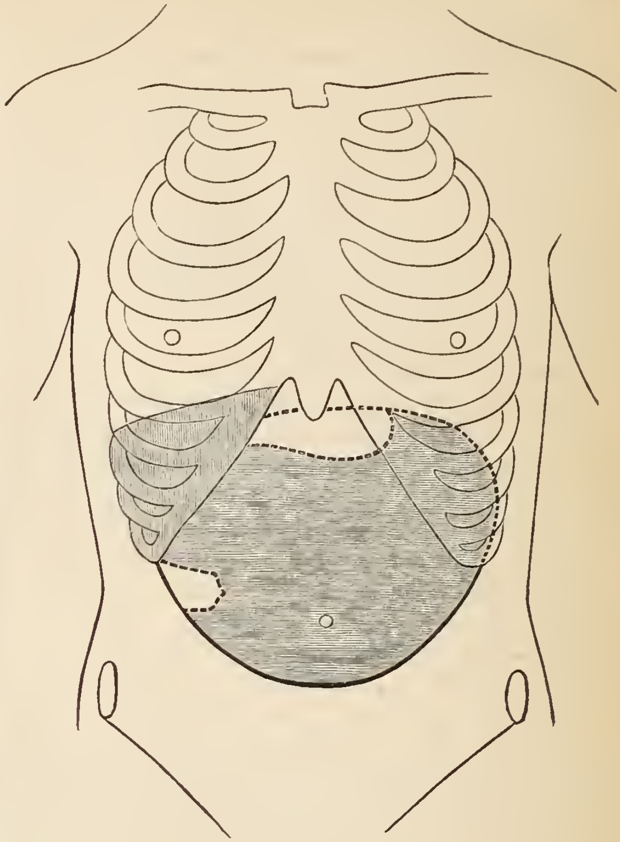

FIG. 2.

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* "Journal of the Am. Med. Assoc.," Sept. 26, 1885.

sixty ounces, and the percentage of sugar above noted, gr. x to ʒj, was pretty constant. Urea was present in 2·35 per cent.

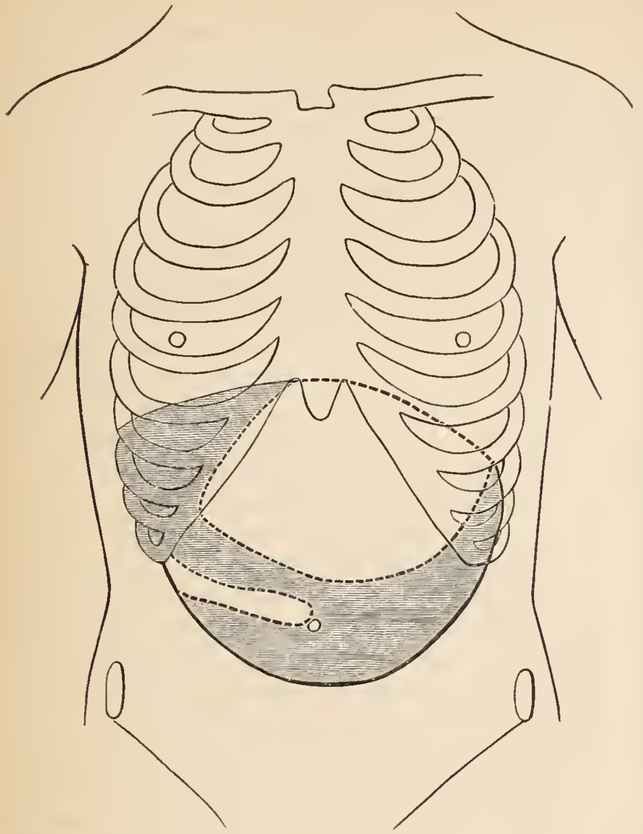

Fig. 3.

On July 19, 1886, Dr. Hackley transferred the man to my service for operation, and with his approval I decided to expose the cyst by incision, wait for adhesions to form, and then to drain it, as recommended by Dr. Senn. The diagnosis seemed clear enough. Physical examination excluded ascites, aneurysm, hydro- or pyo-nephrosis, and established the fact that we had to deal with a retro-peritoneal tumor, as shown by its relation to the stomach and colon. The absence of hooklets and the hydatid fremitus excluded in all probability an echinococcus cyst of the liver, and malignant disease of the supra-renal capsules or pancreas was excluded by the evident cystic character of the growth. The history, its first appearance and rapid growth following an attack of inflammation of the common bile-duct, its subsidence with the appearance of dark-colored stools, its reappearance and rapid increase—all pointed to a cyst of the pancreas from inflammatory obstruction of its duct, while the examination of the fluid, made by Dr. Van Rensselaer with much care, taken in connection with the fatty stools and the mellituria, made that conclusion a positive one. The preliminary operation was done July 19th, under ether, with an antiseptic solution of 1-to-5,000 bichloride of mercury. An incision was made extending four inches upward from just above the navel, and after stopping all bleeding points the cavity opened. In the upper third of the wound the stomach, recognized by its color, thickness of its walls, and the disposition of its vessels, came into view with the omentum dependent from it. On pushing these upward, the posterior surface of omentum was found to be adherent to the cyst. The transverse colon was not recognized. The omentum contained very large veins, and was thicker than normal. It was torn through, the vessels being ligated with catgut when severed, and the cyst-wall exposed. It felt quite thick (one half to three eighths of an inch), and was tough. The upper half of the wound was then closed with silk sutures through all the layers of the abdominal wall. In the lower half the peritonæum was stitched to the skin with fine catgut, left open, and stuffed with iodoform gauze, which was covered with bichloride of mercury compress, absorbent cotton, and a binder. There was slight fever (101°) for two days, but no other reaction. The edges and bottom of the wound were covered with granulations at the end of five days.

On the seventh day after this incision, July 26th, the cyst was drained without anæsthesia. A hypodermic needle was thrust into the exposed cyst-wall at the bottom of the wound, and drew the same fluid as before at a depth of half an inch. Taking this to be the thickness of the wall of the cyst, I cut partly through it with Paquelin's thermo-cautery. There was no pain felt. A large trocar and cannula were thrust into the cyst, and one hundred and eighteen ounces of dark-brown fluid flowed out. A probe passed eight inches inward, upward, and to the left of the middle line. The opening was then cautiously dilated with the finger, and much granular and putty-like material removed with a lithotomy scoop. The cavity was not irrigated. Two large rubber drains, four inches long, were left in; the skin of the abdomen rubbed with carbolized vaseline and iodoform; bichloride and cotton dressing applied. An hour was occupied in these manipulations. The adhesions to the edge of the abdominal wall were not disturbed. Following this evacuation of the cyst there was a rapid improvement in the general condition without any accidents. Between August 13th and September 14th the weight increased from 89 to 101½ pounds, the appetite became good, and strength increased so that the patient walked about freely at the end of six weeks. At the end of a month the stools were of normal dark color. The diet was not restricted, and the urine gradually increased in quantity to 100 and even 140 ounces daily, containing 5 per cent. of sugar. After forty-eight hours the sac was irrigated once or twice in a day with warm water. The discharge gradually diminished in quantity and became pale in color, and the cavity contracted. On September 18th the sinus, occupied by a small tube, was only four inches deep, and the discharge only a few drachms per day. Though he had a good appetite, he was not strong, and complained of thirst. At this date he was transferred to the care of Dr. W. H. Draper, who placed him on restricted diet, and administered codeine, beginning with gr. ¼ t. i. d. This was gradually increased till, on November 1st, he was taking twenty-four grains a day. It was diminished then to twenty grains a day, because of two attacks of sudden and short unconsciousness (ten minutes), without convulsion, and with slight loss of power (transient) in left leg and arm. The quantity of urine fell to fifty ounces a day, and there was but 1 25 per cent. of sugar. The thirst disappeared, the patient took his food eagerly, and was much stronger. On November 13th the sinus was two inches and a half deep, with but a few drops of secretion daily. He was discharged from the hospital at his own request. Two weeks later he died suddenly at his residence out of town. No autopsy was held, and no facts could be learned, except that he had stopped all medicine and paid no attention to diet.

The following analysis of the fluid of the cyst was made for the pathological department of the hospital by Dr. William Gilman Thompson, now professor of physiology in the medical department of the University of the City of New York:

The fluid has a moderately alkaline reaction, a faint sweetish odor, and a specific gravity 1010·5. It is somewhat viscid, but has no froth. It is dichroic, appearing dark green-brown with reflected light, and dull red-brown in a thin layer in transmitted light. After standing for six hours, an iridescent film of mucus holding ammonio-magnesium phosphate crystals in suspension appears upon the surface, with bacteria. A precipitate also forms, amounting to $\frac{1}{200}$ of the entire bulk of fluid, consisting of brownish masses resembling coagulated fibrin. The filtrate is dark green-brown, and the residue is very small, brown, and closely adherent to the filter.

The micro-spectroscope gives the characteristic absorption bands of methæmoglobin in alkaline solution.

The various tests for serum albumin show it to be present, and when dried and weighed it amounts to 2·21 per cent. Mucin is present.

The "diazo" pigment test gives no reaction. Peptones, urea, and glycogen are all absent, as well as the bile pigments. Glucose is present in the quantity of 2·7 per cent. Ether clears the fluid very slightly, if at all, and fat globules are absent in the microscopic examination. The guaïac test shows the presence of an oxygen-reducing agent, probably the protoplasm of numerous leucocytes.

The fluid, when shaken with oil, forms a coarse emulsion which separates again for the greater part, but when examined microscopically, a considerable permanent fine emulsion of the oil is found to have resulted.

The ash, after removal of albuminous matters, amounts to about thirteen parts in a thousand, and consists chiefly of sodium and potassium salts.

A diastatic ferment is found after careful elimination of the sugar already present. This ferment is somewhat less active than ptyalin.

A large number of comparative experiments demonstrate the presence of a trace of peptonizing ferment. The experiments were made upon egg albumin and meats in a digesting oven, and were compared with the simultaneous results of digestion with a dozen different preparations of pancreatic extracts, trypsin, etc.

No peptone reaction is obtained by digesting milk with the fluid, but a coagulum separates after half an hour, which remains undissolved.

The fluid injected in frogs and rats in quantities up to ♏v produced no symptoms.

Microscopic examination reveals large numbers of free, large, round granular cells and many polygonal and branched cells with nuclei obscured by granulations, and no amœboid activity. There are numerous red blood discs and leucocytes, mucus, indican, fibrin, vibriones, granular detritus, and ammonio-magnesium phosphate in large amount.

Summary of the More Important Features.

1. Digestion of starch.
2. Emulsion of fat.
3. Spectrum of a blood pigment (methæmoglobin).
4. Large quantity of sugar, 2·70 per cent.
5. Large quantity of serum albumin, 2·21 per cent.
6. Large quantity of free cells resembling leucocytes, etc.

IRREGULARITIES OF THE SEPTUM NARIUM,
WITHOUT DEFLECTION,
AS AN ÆTIOLOGICAL FACTOR IN NASAL CATARRH.*

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It is the purpose of this paper to invite your attention to outgrowths from the septum narium without deflection of that structure *in toto* from its normal plane, and to consider the relation that such irregularities of structure sustain to the production of certain forms of nasal catarrh.

While this paper was in course of preparation, and after its title had been announced, there appeared in the "New York Medical Journal" of January 15, 1887, an abstract of a paper presented by Dr. F. H. Bosworth before the New York Academy of Medicine, December 30, 1886, that appears to include the topic selected for your consideration. However, as the writer has been led to take up the theme from personal observation and experience, a further consideration of the matter may not be amiss, on somewhat narrower lines and from a different personal standpoint.

With the introduction of cocaine into nasal surgery, and the discovery of its peculiar retractive effect upon the engorged turbinated body, has come an ability to examine thoroughly the nasal cavities under most conditions that has resulted in a decided increase in the therapeutic resources of rhinology, and in an improvement in their results. In the two years past, in consequence, the attention of every rhinologist must have been attracted to the frequency of septal excrescences apart from marked or obstructive deflection of the osseous or cartilaginous septum. As these irregularities of the septum are frequently accompanied by hypertrophy of the opposing turbinated body, they were often overlooked of necessity before cocaine was employed for diagnostic purposes.

These irregularities of the septum are usually found on the sutural lines of the component bones and cartilage. They are osseous or osseo-cartilaginous in structure. Occasionally they are pure ecchondroses, but rarely so without deflection of the triangular cartilage, in which case they are found on the convexity of the deflection. The most frequent location, in my experience, is the sutural line of the vomer and maxilla, just within the anterior nares, and, of course, close to the floor of the nose. This outgrowth usually springs abruptly at right angles to the septum on its inferior margin, and, receding gradually, blends with the cartilaginous septum above. It rarely extends more than half an inch antero-posteriorly, and is osseo-cartilaginous in structure. It occurs with equal frequency on either side, and occasionally on both sides. The next location in order of frequency is on the sutural line of the vomer and the perpendicular plate of the ethmoid, about opposite the posterior third of the middle turbinated body. Here the outgrowth is usually a spur-like development, with small base and sharp apex, occasionally impinging firmly on the opposing turbinated bone, and is a pure exostosis, often of extreme hardness. The ecchondrosis on a more or less deflected septum, as mentioned above, occurs next in frequency. It is a rounded knuckle or sharp spur, and lies immediately within the nostril, occasionally being mistaken for polypus by the inexperienced. Lastly, there is an osseo-cartilaginous ridge formed upon the line of juncture of the vomer, the triangular cartilage, and the perpendicular plate of the ethmoid, sloping upward and backward, occasionally extending the entire length of the nasal chamber, and visible by posterior rhinoscopy as a more or less elevated tumor within the posterior nares.

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* Read by title before the Medical Society of the State of New York, at its eighty-first annual meeting.

These septal irregularities vary in size and number in all degrees, and appear to exist without regard to sex or social condition; I feel tempted to add, without regard to age. I certainly find them in patients as young as five years. In spite of excellent authority to the contrary, I am inclined to regard them as not usually of traumatic origin, but rather due to hereditary peculiarity of development. This belief is confirmed by the often observed similarity of septal deformity in members of the same family.

Jarvis, in papers appearing at various times in the "Archives of Laryngology," the "Medical Record," the "New York Medical Journal," and other periodicals, has exhaustively considered the ætiology of deflected septum, alone or in connection with other topics. He shows quite conclusively its habitual relation to faulty development rather than to traumatism, and cites cases where the deformity appears to be hereditary. His line of argument may, in part, be applied to these septal excrescences without deflection. Certainly the frequency of their occurrence, the limited area usually involved, and its often deep seat, point to structural changes from more complicated and wide-reaching causes than local injury. A blow upon the nose occasionally produces, undoubtedly, a deflection of the cartilaginous septum, or even of the entire structure anterior to the plane of the malar bones, but it seems improbable that it should cause a septal spur, for example, near the posterior nares. It is probable that an over-development from the ossific centers of the various components of the septum, or a lack of proportion between their development and that of other bones of the skull or face, produces a hyperostosis on the sutural lines in certain cases, rather than a bending or deflection of more yielding structures, producing deviated septum in other cases. Whatever the cause, the frequency of septal excrescences without deflection is indisputable.

It is to the part that these forms of irregularity of the septum narium play in the development of nasal catarrh—to the predisposition that their presence produces to the lapsing of acute rhinitis into chronic nasal catarrh—that your attention is particularly invited.

The researches and publications of Jarvis, Bosworth, Allen, and other American rhinologists have established the truth that the prevailing forms of nasal catarrh are essentially local affections, though often far-reaching in their influence. It is now generally recognized that marked deflection of the septum narium, polypus, hypertrophy of the turbinated bodies, or any obstruction to nasal drainage and ventilation, must be removed to admit of relief or cure of the various symptoms of obstructed respiration and perverted secretions that make up the picture of the ordinary and most frequent forms of rhinitis. The rôle of the septum in producing certain forms of irritative hypertrophy of the turbinated bodies, so strenuously advocated by Jarvis, is now receiving wide-spread attention. The effect of a deflected septum, with its usual exostosis or ecchondrosis on the convex side, has been traced by Jarvis and others, and the successive steps of the resultant nasal catarrh have been minutely described. The importance of deflection of the septum as an ætiological factor in catarrh was thus recognized before the cocaine era in nasal surgery.

But there is a large class of cases in which there is not present a deflected septum, nor a typical hypertrophic catarrh—in which there are rather an irritability of the turbinated body, a relaxation of vaso-motor control, and frequent engorgement, with excess of secretion and nasal obstruction alternating and irregularly recurrent—cases classified by some as chronic coryza, by others as a preliminary or first stage of hypertrophic catarrh. Accompanying this condition there are often an increase of the normal naso-pharyngeal secretion, and a drainage of the over-secreting nasal chambers into the naso-pharynx.

The greatest number of cases of nasal catarrh occurring in otherwise healthy individuals is of this type, and it is in the production of precisely these cases that irregularities of the septum narium of the kind under consideration play a prominent part. In that portion of our country bordering on the great lakes and the Atlantic an occasional acute coryza falls to the lot of all. The occasional rhinitis of those in good health, with ample nasal chambers and without septal irregularities, recedes in time, leaving no unusual or annoying symptoms behind. Where an exostosis or ecchondrosis narrows the lumen of the meatus, the influence of pressure irritation, so well explained by Jarvis, tends to prolong the period of congestion and engorgement, and to produce an irritable point on the opposing turbinate. This spot of subacute inflammation affords a vulnerable point, and soon another "cold" adds its quota to the already existing irritation, and increases the liability to further inflammation. Obstruction to nasal sewage and ventilation occurs and recurs, and in this vicious circle a chronic catarrh of the type mentioned is set on foot, to be fostered by climate, habitation, and habits, for it is not for a moment assumed that nasal catarrh is entirely a local affair uninfluenced by the other functions and conditions of the body. But it is asserted that, in the form of rhinitis under consideration, the disease is largely influenced by local conditions, and relieved in the main by local treatment.

The septal outgrowths are not uninfluenced by these recurring inflammations, and show a tendency to growth from the increased vascularity and excess of nutrition accompanying the chronic inflammation. This is evidenced by the distinct history occasionally given of complete occlusion of one nasal passage within a year or two of the time of examination, and where the obstruction is found dependent on the bony or cartilaginous spur or ridge. When a septal spur or ridge arrives, by natural growth or from inflammatory overfeeding, at sufficient size to project into the lumen of the meatus, so that, when the turbinate is at its average point of distension under ordinary conditions, the apex of the spur almost impinges upon it, the slightest disturbance of balance of vaso-motor tension produces pressure and occlusion, as indicated above. Under the trying conditions of our climate, this balance is repeatedly disturbed, and repeated local irritations occur, which gradually become more constant and severe, and a chronic catarrh may thus occur gradually and without preceding "colds" or severe rhinitis. In cold, dry weather, or in the mild, even weather of early fall, such cases have little or no annoyance, but the return of inclement weather renews the unpleasant symptoms.

Very slight changes of climate effect decided changes in these cases. For example, some who are constantly annoyed in Buffalo are comparatively free from catarrh in New York city. Most of the patients who report themselves free from indications of nasal catarrh before living in the lake region, and who afterward develop catarrh, will be found to have slight septal irregularities. The dampness and variability of this climate make too great demands upon a nasal apparatus sufficient for favorable environment, and nasal catarrh follows, as indicated above.

To sum up the conclusion of this paper, it is not alone or in the main the condition of the general health that decides whether an individual shall or shall not have a chronic catarrh in our climate. While admitting the influence of general factors not now under consideration—such as lithæmia, imperfect excretories, diathesis, etc.—yet, other things being equal, the presence or absence of septal irregularities, with or without deflection, decides the occurrence of the prevailing forms of chronic nasal catarrh in one person, and their absence in another. Slight irregularities of the septum narium, without deforming or markedly occluding deflection, are a fruitful source of irritation in a large proportion of cases, inviting and inducing recurrent rhinitis under slight strain upon the power of resistance from climate or environment.

AN ABSTRACT OF A COMMUNICATION TO THE LARYNGOLOGICAL SECTION OF THE NINTH INTERNATIONAL MEDICAL CONGRESS, ON

RECENT VIEWS AS TO THE PATHOLOGY AND TREATMENT OF TUBERCULOSIS OF THE THROAT AND LARYNX.

By LENNOX BROWNE, F. R. C. S. Ed., London,
A VICE-PRESIDENT OF THE SECTION.

Pathology.—*Lungs:* 1. The tuberculous process is initiated by the settlement of a specific bacillus on a suitable nidus.

2. The bacilli may be deposited at a portion of the lung—*e. g.*, the apex—ill supplied with blood and air, or in altered pulmonary tissue, the result of acute inflammation, as at the base.

Larynx: 3. Bacilli may be carried into the general circulation by the lymphatic system, or, in the case of cavities, may be conveyed to the larynx by means of the sputa. The former, since it does not involve a previous breach of surface, is the most probable route in the commoner forms of laryngeal tuberculosis.

4. The tuberculous process is manifested in the larynx, as in the lungs, in two ways: first, as the result of anæmia, in which case the marginal and apical regions are primarily attacked; secondly, as the result of an inflammation frequently induced by functional abuse, in which case the vocal cords and ventricular bands are situations in which the disease is not infrequently first manifested.

5. Erosions, non-tuberculous in character, may appear in the larynx of a tuberculous patient; doubtless some of those that heal are of this nature.

6. Clinical evidence has long warranted the supposition that a laryngeal may precede a pulmonary tuberculosis. Recent facts have proved the truth of this hypothesis.

Fauces and Pharynx: 7. A nidus may be formed in this region by absorption of the contaminated fluids of pulmonary, laryngeal, and oral secretion, and the bacilli be conveyed through the general system.

8. In the case of a primary faucial tuberculosis there is probably a previous breach of continuity.

9. Clinical evidence would show that there is a possibility of a primary faucial tuberculosis, but the fact has not yet been verified by post-mortem evidence.

Tonsils: 10. While faucial and pharyngeal tuberculoses are acutely painful, the tonsils may be attacked without symptoms, provided the other portions are free from ulceration.

Treatment.—Considerations under this heading are limited to cases in which the disease, though well established, is not advanced.

1. The first indication is, by *climate, hygiene,* and *general measures,* to place the patient in the most favorable position for resisting the baneful influence of the bacilli and rendering their life impossible; preference is given in early cases to sea voyages and mountain air over hot or moist climates.

2. *Inhalations* containing oxygenating elements and administered by oro-nasal inhalers are preferable to those of steam.

3. *Medicines* include, first, atropine as a probable alkaloidal antidote to symptoms of the septicæmic process indicating a ptomaine toxæmia; secondly, *hypophosphites,* of which that of calcium is preferred as most favorable to beneficial (calcareous) degeneration of the tubercle; thirdly, arsenic, which it is suggested may act as a specific in the tuberculous disease, though not to the same extent as mercury does in syphilis.

4. *Germicides* are of two classes—(*a*) those which may powerfully affect the general system, and (*b*) those of a more purely local character. Of the first may be mentioned bichloride of mercury and aniline applied locally to the larynx; both of these I condemn on the ground that, since it is much easier to destroy normal cells than the bacilli in the case of a tuberculous patient, the treatment may aggravate rather than relieve. Moreover, mercury internally administered is invariably harmful in a case of tuberculosis. The use of sulphureted hydrogen and carbonic-acid gas *per rectum* is a method of treatment which is still on its trial, and, so far as can be judged, it is more favorable in cases of chronic bronchitis than in tuberculosis. The microbicidal effect of the gas is very feeble.

Conclusions.—That, while throat symptoms may be greatly relieved even in cases of advanced pulmonary disease, there is seldom any true cure, but that each year there is a greater hope of such a happy result.

There can be no doubt that ulcers in the regions under consideration can be healed, and success in this direction is in proportion to the accessibility of their site.

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THE BEARING OF ANTHROPOLOGY ON HYGIENE.

During the last thirty years, especially since the impulse given by Broca, observation, research, and comparison have done much toward the scientific study of man in his many relations to his environment. The application of the data thus obtained to the betterment of human life, individual and social, may be looked for in such a work as has recently been presented to the Paris Society of Anthropology, as well as in certain papers by Professor Spatuzzi, of the University of Naples, treating of hygiene and anthropology in their relation to the development of human stature, the publication of which was recently begun in "Il Morgagni." The chief subjects upon which light is thrown from these sources are: acclimatization; the immunity of natives to certain diseases; the crossing of races and its effects in giving rise to new types (applying to marriage, for some marriages of consanguinity must result in the transmission of certain diseases); and heredity. The struggle for mastery which Darwin demonstrated among the lower animals has existed among men from the time of the cave-dwellers to the present day, and the country which expects to win must prepare its own soldiers for the warfare of modern industrial and intellectual life. Instruction of the mind should go hand in hand with physical education, and hygienists have to provide physiological exercise for the principal functions of the organism.

It may at first glance seem trite to say, with Professor Spatuzzi, that growth, from the beginning of intra-uterine life through infancy, youth, manhood, and old age, is not a thing of mere chance unaffected by climatic, anthropological, and ethnographic influences; yet the failure of enlightened communities and persons to grasp the fact may well give rise to thought. In the breeding of the domestic animals scientific methods are followed, resulting in heightened strength and beauty; but with man too much is left to unreasoning impulse, and the consequences are to be seen in puny and feeble-minded children. By the application of physiognomy—meaning not only the character-study of the face, but that of the whole individual, physical, mental, and emotional—much might be done to promote marriages from which a better development in the offspring might be expected.

Professor Spatuzzi has taken military statistics as a basis for the study of stature in the various regions under the control of the Italian Government. He finds a mean height somewhat lower than the standard in the districts inhabited by the descendants of the Græco-Saracens (southern Italy, Sardinia, and Sicily) as compared with those where we find the offspring of the Pelasgians, Sabinians, Umbrians, and Etruscans (central and northern Italy). Differences of stature have relations, somewhat undetermined as yet, to the intermingling of races, with a predominance, among modifying agencies, of a complex of climatic causes subordinate to ethnographic and anthropological influences. This view is similar to that of Pagliani ("Giornale della Società italiana d'igiene," 1869), who states also that there are found in Turin two races, the taller of which is the stronger, more intelligent, and more enterprising. From the data of our American civil war, it appears that residence in the Western States during the years of growth tends to produce an increase of stature. From the foregoing we may deduce that, while climatic action and other local conditions, such as food, raiment, occupation, and social status, may bring about variations of function and alter some organs, the greater part of such change is owing rather to causes over which man has hitherto exercised little, if any, voluntary control, but which, like the regulation of marriage, are amenable to a sort of control that would favor the growth, development, and long life of the strong and the more perfect. The continuation of Professor Spatuzzi's articles will be waited for with interest by hygienists.

PASTEUR'S METHOD OF PREVENTING RABIES.

The editor of the "British Medical Journal" having written to M. Pasteur inquiring as to the case of Lord Doneraile, who had died of rabies after having undergone the preventive treatment in Paris, the journal mentioned publishes M. Pasteur's reply. It appears that Lord Doneraile was bitten on the 13th of January, at a time when M. Pasteur was absent from Paris on account of the state of his health, and when, as he says, he was much distressed at the prominence given by the press to the accusations that had been brought against his method in the discussions at the Paris Academy of Medicine—not that he felt any anxiety for the future of the method, but because of the mental agony that he knew must be endured by the patients who had already undergone the treatment, and the hesitation that would spring up in the minds of those who were on the point of visiting Paris for the purpose of subjecting themselves to it. It was this hesitation, he thinks, that induced Lord Doneraile to allow an interval of eleven days to elapse before the treatment was begun, and to the passionate attacks of his opponents he imputes it that Lady Doneraile and her medical adviser insisted that only the simple method should be employed, and not the modified method which he had been led to adopt, especially in the case of severe bites. Several inoculations were practiced, but without using medullæ of more [? less] than five days' drying. Under these conditions, says M. Pasteur, it was possible only to delay the development of the rabic virus for four or five months. The lesson to be learned from the final fatal result is that persons who have been bitten by rabid animals should resort to the preventive treatment without loss of time, for instances are not very uncommon in which the period of incubation is short, and it is necessary that the preventive inoculations should have a certain start of the development of the virus casually implanted.

But it is not alone with Lord Doneraile's case, or with other cases like it, that M. Pasteur deals, and he does not seek to account for all the failures of the method by attributing them to delay. He simply urges that that is one cause of failure, and one that can usually be obviated. He frankly admits that there have been failures in cases where there was no delay, but he adds that they have been extremely rare, and he asks if it is a matter for wonder that in such a subject there should still be unknown points that defy the explanations of science. The isolated failures are loudly announced, but this is not a matter to be regretted, for it tends to greater statistical accuracy. On the other hand, it seems to be forgotten how many among the hundreds who undergo the treatment escape the disease, although their wounds are often very severe. The method should not be expected to work miracles, and to judge of it only by its occasional failures shows an absolute want of good faith.

It seems to us that M. Pasteur is fully justified in all these statements, and we are glad to observe that the "British Medical Journal," commenting on his letter, takes a decidedly fair and hopeful view of its subject. The question arises as to how long the medical profession, having itself done next to nothing toward unraveling the mystery of rabies, can afford to occupy the position of appearing to tolerate unfair and unscientific obstruction of M. Pasteur's work.

MINOR PARAGRAPHS.

IODOFORM POISONING.

So far as we remember, there has been no previous publication of so comprehensive and systematic a study of the poisonous effects of iodoform as is to be found in Dr. Taylor's article, which we publish in this issue; and we feel quite sure that there has been none in which the author's own observation bore so great a share. Although Dr. Taylor read his paper before a society devoted to dermatology, his treatment of the subject is of a sort to make what he has written of value to the general surgeon.

THE EIGHTH VOLUME OF THE INDEX-CATALOGUE.

The eighth volume of the "Index-Catalogue of the Library of the Surgeon-General's Office, United States Army," including headings from "Legier" to "Medicine (Naval)," has recently been issued from the Government Printing Office. It contains 10 pages of preliminary matter and 1,078 pages of references. We have so often expressed our admiration of this great work that we need not now say more than that the new volume is quite on a par with those that preceded it.

THE STATE MEDICAL ASSOCIATION.

The fourth annual meeting of the New York State Medical Association, which was held at the Hotel Brunswick this week, was the occasion of the reading of a number of very interesting papers, as was to be foreseen from the programme which we published in a recent issue. The meeting occurred several weeks earlier this year than before, and perhaps that fact may account for an apparent diminution in the attendance, as doubtless many of the members had taken up all the time they could well spare at this season in attending the International Medical Congress. We shall shortly publish a summary of the proceedings.

ENTOZOA IN DENMARK.

Dr. H. Krabbe has contributed to the "Nordiskt medicinskt Arkiv" an interesting account of his observation of three hundred cases of cestoids in Denmark, more than half of them in Copenhagen. Eighty-five of the affected persons were males, and two hundred and fifteen were females. The *Tænia saginata* was the parasite in 190 cases (solitary in every instance), the *Tænia solium* in 77 (multiple in 13), the *Tænia cucumerina* in 9 (double in 3), and the *Bothriocephalus latus* in 25 (multiple in 5). In one patient the *Tænia solium* and the *Bothriocephalus latus* were found together.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 27, 1887:

DISEASES.	Week ending Sept. 20.		Week ending Sept. 27.	
	Cases.	Deaths.	Cases.	Deaths
Typhoid fever	52	12	43	14
Scarlet fever	23	3	39	6
Cerebro-spinal meningitis	2	2	5	3
Measles	5	1	11	2
Diphtheria	70	29	106	41
Small-pox	4	2	3	0

The College of Physicians and Surgeons.—The new building in West Fifty-ninth Street was inaugurated on Thursday of this week. The exercises included a prayer by the chaplain, the Rev. Dr. Weston; an historical sketch of the college by the president, Dr. John C. Dalton; an inaugural address by Mr. Joseph H. Choate, of the board of trustees; and the presentation of portrait busts by Dr. William H. Draper, of the board of trustees. The dinner of the Alumni Association was given at Delmonico's in the evening.

The Townsend Pavilion, erected on the grounds of Bellevue Hospital, was formally presented to the city on Tuesday of this week. It is to be devoted to the treatment of women requiring laparotomy, and is a thank-offering by Mrs. R. H. L. Townsend.

The Therapeutic Society of Cortlandt, N. Y.—At a meeting to be held at the Dexter House on Tuesday, the 4th inst., at 2 p. m., Dr. White will read a paper on "Intelligent Prescribing."

Roosa on the Ear.—We learn that Dr. D. B. St. John Roosa's treatise on the ear has been translated into German by Dr. Ludwig Weiss, and is to be published by Hirschwald, of Berlin, early in the coming year.

The Post-graduate Medical School and Hospital.—Dr. Mary T. Bissell has been appointed attending physician to the babies' ward.

Professor Nothnagel.—A contributor to the "Lancet" describes Professor Nothnagel's recent narrow escape from death on his return home from a professional visit to Moscow. He fell from a sleeping-car, but fortunately sustained no serious injury, although he experienced great difficulty and discomfort, in the midst of a storm, before he reached a place of shelter.

An Honor to M. Pasteur.—Our French contemporaries announce that the Emperor of Austria has conferred the order of the Iron Crown on M. Pasteur.

The late Dr. Alonzo Clark and the late Dr. Jared Linsly.—At a meeting of the Board of Managers of the New York Society for the Relief of the Widows and Orphans of Medical Men, held September 21, 1887, Dr. Gouverneur M. Smith presiding, the death of Dr. Alonzo Clark, a late associate and benefactor, having been announced, it was

Resolved, That this board has heard with sincere sorrow of the death of Alonzo Clark, M. D., LL. D., and, in view of his eminent service to the medical profession as scholar, instructor, and counselor, deems it fitting to place on record an expression of its appreciation of his eminent ability, of his singularly upright professional and private life, and of his zeal and ability as an investigator and lecturer.

Resolved, That the medical profession owes to him much of value in the advancement of medical science, while his ever loyal devotion to those needing his help and advice makes his name one to be honored by both personal and professional friends.

Resolved, That, while there is in his death a sense of bereavement to those who knew him best, there is also the satisfaction of a long and honorable life, filled with results capable of accomplishing much of good to his fellow-men.

Resolved, That a copy of these resolutions be sent to the family of Dr. Clark, and that they also be inscribed in full upon the minutes of this board, and be published in the medical journals.

[Signed.]
Willard Parker, M. D.,
John H. Hinton, M. D., } Committee.
Ellsworth Eliot, M. D.,

Whereas, The New York Society for the Relief of the Widows and Orphans of Medical Men has recently been bereaved by the death of one of its benefactors and its former president, Dr. Jared Linsly,

Resolved, That the Board of Managers desires to place on permanent record its appreciation of his private and public virtues, of his distinguished medical career, and of his exemplary Christian character.

Resolved, That by his pecuniary contributions, as well as by his counsels, he has ever shown such a liberal spirit that he has been among the foremost in promoting the benevolent objects of the society.

Resolved, That a copy of this preamble and resolutions be entered upon our minutes, and be sent to the family of the deceased with an expression of our sympathy in their great bereavement, and be sent to the medical journals.

[Signed.]
Isaac E. Taylor, M. D.,
W. N. Blakeman, M. D.,
W. C. Livingston, M. D.

The late Dr. Joseph C. Hutchison.—At a meeting of the medical staff of the Brooklyn Hospital, September 24, 1887, the following minute was adopted:

The long and active connection of our friend and associate, the late Dr. Joseph C. Hutchison, with the Brooklyn Hospital was characterized by earnest and unfaltering devotion to its interests. His pre-eminent professional skill, his large and varied experience, his conservative and accurate judgment, his genial manner, and the inspiration of his native kindness and Christian manhood were ever ready for his professional associates, as well as for those who sought the shelter of this institution for help, and were ever intent on all suggestions that served to keep the Brooklyn Hospital first and most liberal among the charitable institutions of the city. Contributing, as he did, by his dignified presence and his many graceful accomplishments, to the adornment and advantage of the enterprise, culture, and benevolence of the city, the Brooklyn Hospital was nearer to his heart than any other, and to it were given his utmost care and the best of his gifts.

[Signed.]
D. E. Kissam, President,
Arthur R. Paine, Secretary.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 18, 1887, to September 24, 1887:*

Cabell, Julian M., First Lieutenant and Assistant Surgeon. Relieved from duty in connection with the Annual Department Rifle Competition at Bellevue Rifle Range, Nebraska, and ordered for duty as Medical Officer at the "Rifle Camp for Team of Distinguished Marksmen," Bellevue Rifle Range. S. O. 89, Department of the Platte, September 10, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending September 24, 1887:*

Hutton, W. H. H., Surgeon. Granted leave of absence for thirty days. September 15, 1887.

Purviance, George, Surgeon. Granted leave of absence for thirty days. September 13, 1887.

Armstrong, S. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. September 13, 1887.

Glennan, A. H., Passed Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. September 15, 1887.

White, J. H., Assistant Surgeon. Granted leave of absence for twenty-seven days. September 13, 1887.

Norman, Seaton, Assistant Surgeon. Granted leave of absence for twenty days. September 16, 1887.

Heath, F. C., Assistant Surgeon. To proceed to Mobile, Ala., for temporary duty. September 15, 1887.

White, J. H., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon from October 1, 1887. September 19, 1887.

Pettus, W. J., Assistant Surgeon. To proceed to Savannah, Ga., for temporary duty. September 20, 1887.

Goodwin, H. T., Assistant Surgeon. Appointed an Assistant Surgeon, September 22, 1887. Assigned to temporary duty at Norfolk, Va. September 23, 1887.

Society Meetings for the Coming Week:

Monday, *October 3d:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Monmouth, N. J., County Medical Society (Freehold); Chicago Medical Society.

Tuesday, *October 4th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (annual), Columbia (annual—Hudson), Orange (semi-annual—Goshen), and Schoharie (semi-annual), N. Y.; Therapeutic Society of Cortlandt, N. Y.; Hudson (Jersey City), N. J., and Union (quarterly), N. J., County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society.

Wednesday, *October 5th:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical

Society (Bangor); Philadelphia County Medical Society (regular); Bridgeport, Conn., Medical Association.

Thursday, *October 6th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; U. S. Naval Medical Society (Washington); Washington, Vt., County Medical Society.

Friday, *October 7th:* Practitioners' Society of New York (private).

Saturday, *October 8th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

Abraham Gardiner Thompson, M. D., of Islip, N. Y., died on Monday, September 26th, in the seventy-second year of his age. The deceased was a graduate of the College of Physicians and Surgeons, of New York, of the class of 1837.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(Continued from page 359.)

Alexander's Operation.—Dr. A. Doléris, of Paris, present by invitation, read a paper on this subject in French. The object in shortening the round ligaments, he said, was not to give support to the uterus, but to keep it from falling backward. Retroversion might be simple, or it might be complicated with other abnormal conditions. If there was an elongated diseased cervix, he first restored this; if there were adhesions, he employed uterine gymnastics. In some cases there was only apparent retroversion; when the patient was instructed to bear down, prolapsus was revealed. Anterior colporrhaphy and posterior colporrhaphy should be done when called for. As to the difficulties of Alexander's operation, they could easily be overcome. The ligaments were less difficult to find in the living than in the dead subject. Since he had ceased to employ drainage and used a bichloride solution, he had not seen pus after the operation. He had passed the finger through the internal abdominal ring without bad result.

Dr. Cordes, of Geneva, present by invitation, being requested to give the results of the operation in Switzerland, said he did not know that the operation had been performed there.

Dr. Reid, of Glasgow, present by invitation, said he did not doubt the value of the operation in properly selected cases.

Dr. A. Martin, of Berlin, present by invitation, had not performed it; his *confrères* had done it in only a few cases.

Dr. W. T. Lusk, of New York, had formerly been a skeptic, but the results obtained by Dr. Polk had led him to perform the operation in several cases, and he had become a complete convert to its value in properly selected cases—those in which other methods had failed to mitigate the distressing symptoms. Necessary preliminary measures should first be resorted to.

Dr. C. C. Lee, of New York, had done the operation nineteen times, and could testify to its utility in properly selected cases.

Dr. Howard Kelly, of Philadelphia, present by invitation, preferred to suture the uterus to the pelvic walls—an operation which there was not time to fully describe.

The President's Address.—In his address, the president, Dr. A. J. C. Skene, of Brooklyn, touched upon the usefulness of medical societies; upon the initiative taken by this country in establishing a local, and afterward a national, gynæcological society; upon the question of special and general practice; and upon the great advance made in this department, although some impurities remained to be washed from the pure gold. He suggested that it would be well for gynæcologists, while pressing so vigorously forward, to look back upon the work accomplished, and pass judgment upon the bad and the good. The success which had attended surgical means had enabled the latter to overshadow other equally necessary means for the relief of suffering. There was also need of an improved nomenclature. Nor had preventive medicine as it related to gynæcology received the full relative attention to which it was justly entitled. For example, much had been done in the way of relieving anteversion of the uterus, but less in preventing habits of life which led to anteversion. Honored should be the surgeon who relieved disease, but he who prevented disease should be looked upon as the greater hero. Another field for improvement was that of medical journalism. How different would many published articles appear if they were first passed upon by a supreme court of medical experts!

On the Treatment of the Pedicle in Supravaginal Hysterectomy.—Dr. George Granville Bantock, of London, an honorary member, read a paper on this subject. He recited that part of his personal experience which had led him to adopt certain measures and to reject others in the treatment of the pedicle in supravaginal hysterectomy. In one case the actual cautery was applied to the stump to check hæmorrhage, but, on removing the ligature, hæmorrhage took place as if from a wound made with a knife. In another case copper wire was drawn around the pedicle, but he learned that wire made of copper was not able to bear the strain. Steel wire was too difficult to manipulate. Iron was then employed. A further step was to trim the stump, and stitch the peritoneal tissue over its surface. He further learned never to cut away the tumor until the pedicle had been transfixed with supporting pins. In his eighty-fifth case he introduced another important modification. The *serre-nœud* was put on just below the level of the ovaries, the broad ligament being seized between the ovaries and the uterus. The peritonæum and tumor were divided all round a short distance from the wire loop, the instrument was now screwed up, tension was removed from the uterine aspect (no difficulty was experienced in holding it), pins were put in, a *serre-nœud* was put on behind the pins, and the first was then removed, enabling him in this way to gain about half an inch on the pedicle. One should seek to get a long pedicle, and relieve the strain on the broad ligaments and dragging on the supporting pins. If the broad ligaments or the peritoneal covering appeared to be redundant, the operator should remember not to cut away any until he was ready to stitch it over the stump. The intraperitoneal method of treating the stump had been held up as the ideal method, but as a matter of fact we were not yet able practically to adopt an ideal method. Dropping the stump had in his hands proved about as uniformly disastrous as the extraperitoneal method of treating it had proved successful. He had employed the former method in two cases, both of which proved fatal. In some cases the broad ligaments were so long and the ovaries so easily lifted out of the pelvis that it was a simple matter to include the whole in a loop. Or one ovary might be included in the loop, while the other had to be secured separately. Or both might have to be secured separately. The tumor might be situated so low as to render it necessary to separate it from the peritoneal envelope before sufficient pedicle could be obtained. As to the after-treatment of the pedicle, it should be thoroughly protected with gauze, and then the less it was interfered with the better. The prime object was to get the stump dry. As soon as the dressings became moist they should be changed. Perchloride of iron should not be applied; it was unnecessary, and might be injurious. In regard to tightening of the instrument, very little interference would be required. If the pedicle was very thick, it would probably be necessary to tighten the instrument. There should be no hurry to get rid of the stump so long as it remained dry. If pus appeared, measures should be taken to give it free discharge. He had performed supravaginal hysterectomy fifty-seven times, with forty-five recoveries and twelve deaths. In only two of the twelve was the death due to peritonitis and septicæmia. Of hysterectomies for the removal of pedunculated fibroid, thirteen cases had been treated by the extraperitoneal method, all of which had ended in recovery. Two cases in which enucleation was practiced and the extraperitoneal method carried out, had both ended in recovery. In five cases treated by the intraperitoneal method, one patient had recovered and four had died. The discussion on this paper was postponed.

A Case of Acute Dilatation of the Stomach following Laparotomy.—Dr. James B. Hunter, of New York, described the case and reviewed the literature of acute dilatation of the stomach. His case was one of removal of the ovaries and tubes. Prior to the operation the other organs were examined, and nothing abnormal was found. The operation was performed in the usual manner; nothing abnormal was noticed about the stomach. A drainage-tube was not used. On the second day there was in the morning a good deal of vomiting, and in the evening the temperature was 105° F. On the fourth day the vomiting continued, gas escaped freely by the mouth and rectum, there was severe pain in the region of the abdomen, and some distension. On the eighth day the patient continued to vomit apparently a larger quantity than she ingested. She was supposed to have a low grade of septic peritonitis. She died on the eighth day, of exhaustion. At the autopsy the abdomen was found almost completely occupied by the distended stomach, which had displaced the small intestine, the transverse colon, and the omentum. There was no evidence of peritonitis. The stomach contained a gallon of bluish, sour fluid; the mucous membrane showed evidence of chronic catarrhal inflammation; there was marked general atrophy of the coats, especially of the muscular. The inference was that death was due to exhaustion from lack of power to assimilate food. This patient had a right inguinal omental hernia. The author thought the diagnosis would have been difficult to make, and it was doubtful whether the patient could have been saved. Early, the stomach-tube might have been used, but subsequently the thinness of the walls was such that its use would have been very dangerous. The practical lesson was that gynæcologists should pay attention to other organs as well as those of the pelvis.

The Intra-uterine Stem in the Treatment of Flexures.—Dr. A. Reeves Jackson, of Chicago, said that in this paper he did not intend to consider all of the many questions which might arise in connection with the subject of uterine flexions. His object was to present the results which he had observed to follow a certain plan of treatment when applied in a selected class of cases, and to explain the details of the method used. The single indication for treatment considered by him was dysmenorrhœa; the removal of barrenness was only a secondary consideration. He first endeavored to pass a flexible olive-tipped bougie through to the fundus, and repeated this procedure once a day or once in three days, according to the amount of irritation or pain. Larger bougies were successively used. Then, when no pain was present, and at the end of a menstrual period, he inserted a soft rubber stem which was shorter than the canal. It was kept in place by a cotton tampon placed against the neck. The stem was followed by a larger one at the end of from two to six weeks. As soon as the uterus was quite or nearly straight, a more permanent stem of hard rubber could be used. At first he had expected from the soft stem only to prepare the uterus for the stiffer one, but in practice he had found the latter sometimes uncalled for. The hard stem was worn continuously not less than three months, to be replaced in a few days if the cure was not permanent. The virtue of the treatment was that it acted slowly. The uterus had to be coaxed, not forced, into proper shape. He had treated sixty-seven cases; in forty-one there was cure of the flexure; in twenty the result was unknown; in five the dysmenorrhœa was relieved. He thought a larger number of cases could be cured by this method than by any other.

Dr. Ogden, of Toronto, present by invitation, was perfectly in accord with the spirit of Dr. Jackson's paper. We should not attempt to straighten the uterus suddenly. He preferred dry to moist cotton to retain the soft stem.

Dr. Aust-Lawrence, of England, present by invitation, said that in his country intra-uterine stems had met with disfavor, but his own plan of treatment of uterine flexions was similar to that of Dr. Jackson, treating selected cases, and correcting the deformity slowly.

The Treatment of Uterine Fibromata by Electrolysis.—Dr. G. Apostoli, of Paris, present by invitation, read a paper in French on this subject. In using an electrode, positive or negative, within the uterus, we had a double object in view; the first, to treat the mucous membrane, which was always diseased in endometritis, applying thereto a current which was antiseptic and curative at the same time; second, to get the trophic action of the current to combat at the same time the lesions of the parenchyma which were nearly always concomitant. His experiments in the treatment of uterine fibromata had been begun in 1882. In all cases of uterine hæmorrhage he invariably applied the positive pole within the uterus, reserving the negative pole for other cases. He had employed this therapeutic measure, which he characterized as rational, inoffensive, and precise, in nearly three hundred cases. When uterine fibromata were present they were almost invariably diminished in size, but they never totally disappeared. The treatment was continued on an average from three to nine months. There resulted rapid and lasting arrest of hæmorrhage, and relief from symptoms.

Dr. J. R. Chadwick, of Boston, had tried Dr. Apostoli's method during the past six months, but the results had been unsatisfactory. It was only fair to say that the current had not been applied in some cases as many times as Dr. Apostoli said was necessary in order to obtain positive results. Out of fifteen patients, six or eight had received seven or eight applications each; one received eighteen applications, and the others the smaller number. In one case a small fibroid was reduced after a few applications; in one, fever and symptoms of metroperitonitis developed; in two, death took place.

Ventral Hernia after Laparotomy, and its Surgical Treatment.—Dr. Chadwick read a paper on this subject. The hernia usually occurred some months after the laparotomy, and was progressive, and in most cases means for retaining it were ineffective and a source of trouble to the patient. It gave rise to a dragging sensation, meteorism, constipation, and indigestion. There was a constant tendency for the tumor to increase in size, and strangulation was threatened, although he was not informed that it had supervened in hernia following laparotomy. As to the prevention of hernia after laparotomy, as yet we were unable to say positively what method of uniting the wound was most likely to prevent its development. Dr. Gill Wylie had very properly laid stress upon uniting fascia to fascia, and other like tissues with each other, when closing the abdominal wound. The sutures should be inserted sufficiently close together, and intra-abdominal tension should be avoided by proper feeding and early resort to enemata or laxatives. Simon's method of treating the abdominal wound was also considered. The presence of cicatricial tissue from the laparotomy should not stand in the way of a radical operation for the cure of the hernia. The operation was really an exploratory one, and did not differ from an exploratory abdominal incision in other cases except that one knew not whether the peritonæum was intact or not. If it was intact and was returned to the abdominal cavity, and the wound closed, there would be some danger of pushing the needle through the serous covering. In one case of large ventral hernia following laparotomy, the author had opened the sac and found that the incision in the peritonæum had not united. He brought the peritoneal surfaces together with raw-silk sutures. The intestines were released from the sac with tediousness and returned to the abdominal cavity with difficulty. The operation lasted two hours. Convalescence was uneventful. Some time after the operation he could find no weakness in the line of the cicatrix.

(*To be concluded.*)

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of September 22, 1887.

The President, Dr. J. C. Wilson, in the Chair;
Dr. W. E. Hughes, Recorder.

Thrombosis of the Portal Vein.—Dr. W. Osler presented a specimen of thrombosis of the portal vein. Chronic obstruction to the blood-flow in the branches of the vena portæ within the liver, such as occurred in cirrhosis, was probably, he remarked, the most common cause of this rare condition. We not infrequently met with atheroma in the portal vein and its branches in cirrhosis, one factor in the production of which, as in the pulmonary artery in mitral stenosis, was the heightened blood-pressure; and to this change the thrombus formation was closely related. At first, and possibly for a long time, mural, it gradually became obliterating, and, if the collateral circulation was established, the patient might live some time, as in a case which he had reported in 1882 ("Journal of Anatomy and Physiology"), in which the vein was represented by a firm fibrous cord. The specimen now shown had been taken from a Swede, aged about forty-five, who was admitted into the University Hospital on May 7th with ascites. As he could not speak English, it was difficult to obtain a history, but it was ascertained that he had been in failing health for some time and that latterly his abdomen had become swollen. The swelling did not appear to have come on suddenly. The liver dullness was reduced, the superficial abdominal veins were moderately distinct, and the case was regarded as one of ordinary cirrhosis. The man was tapped five times between May 20th and July 14th, and from twelve to fifteen pints of serous fluid were removed on every occasion. He was able to be up and about after each tapping, but he gradually became emaciated, weak, and finally comatose, and he died July 20th. There were no hæmorrhages, and it might be stated that the abdominal veins were at no time more distended than was common in atrophic cirrhosis. The condition post mortem was as follows: Fibrous adhesion in the peritonæum; atrophic cirrhosis of the liver, with thickened capsule; an old firm thrombus in the vena portæ, extending into the splenic and mesenteric veins; thickening and patchy calcification of the walls of the portal vessels; great enlargement and induration of the spleen; kidneys indurated; no special changes in the thoracic organs. A careful dissection of the abdominal veins was not made, but the speaker had been told by Dr. Miall, who made the autopsy, that the peritonæum was very dark and the veins behind the liver were very large. The collateral channels were no doubt largely those of the anastomosis which existed between the peritoneal, mesenteric, and lumbar veins and the gastric, diaphragmatic, and œsophageal vessels. As in the case of fibroid obliteration referred to, a perfect collateral circulation might be established in cases of occlusion of the portal vein, and the patient live for months or years. In this instance the thrombus was evidently old, as in places there were calcareous changes. The branches in the liver were filled with soft clots. The gall-bladder was full of normal bile. In two other cases of cirrhosis the speaker had met with thrombi in the portal vein, in both instances with thickening and atheromatous changes in the vessel walls, but the thrombi had not undergone such degenerative changes as in this specimen.

Chronic Hypertrophic Cirrhosis of the Stomach, with Gastric Ulcer and Colloid Change of the Mucous Membrane.—Dr. H. F. Formad presented a specimen from a sailor, aged thirty-eight, a German, who was admitted into the Naval Hospital ten months before, with the symptoms of dyspepsia and occasional vomiting. There had been absolutely no pain at any time and no vomiting of blood. Three months before his death he began to have serious difficulty in swallowing, with œsophageal regurgitation, and, though a stricture was sought for, none was found. Very curiously, for a few days immediately preceding death he swallowed well. Death resulted from starvation. At the autopsy the abdominal cavity was found to contain fifty-two ounces of straw-colored fluid and showed evidences of old peritoneal inflammation, especially at the upper part, where the organs were matted together into one mass. The stomach was quite contracted, having a capacity of from four to five ounces. Its walls were from one half to one inch thick, the thickness being greatest at the cardia and gradually decreasing to within two inches of the pylorus, when the wall abruptly resumed its normal condition. The first impression given was that it was a case of cancer, but closer examination showed it to be simply one of great thickening of the wall with polypoid elevations of the mucous membrane and secondary colloid change. The ulcer was situated in the posterior wall near the cardia; its bottom was formed by scar tissue in the spleen and the peritoneal coat of the transverse colon. Communication with the abdominal cavity had been prevented by firm adhesions. The omentum contained a number of colloid granules as large as peas. The abdominal lymph glands appeared to be amyloid. The case was remarkable: 1. In the complication of hypertrophy with gastric ulcer, a condition which the reporter had never before seen. 2. In that the hypertrophy should have commenced at the cardia instead of at the pylorus.

Stab-wound of the Abdomen.—Dr. Formad also reported this case. Laparotomy had been performed, and a wound of the intestine found, which was sutured. The man died suddenly sixty hours after the operation. At the autopsy there was only a very slight amount of peritonitis found, and the wound in the intestine had firmly united. The abdominal condition not being sufficient to account for death, the brain was examined, and a very distinct embolus found on the floor of the fourth ventricle. The stomach had not been touched, but on its peritoneal surface there were some slight tears, and opposite them in the mucous membrane, but not corresponding exactly with them, were several distinct, small linear ulcers, which appeared like ulcers due to some injury. They did not look at all like ordinary ulcers, but still had evidently formed before death. There was an old hæmorrhagic infarct of the kidney.

Dr. Osler had been particularly interested in the specimen, and had hoped that possibly it might prove to be related to the formation of gastric ulcer in the way pointed out by Dr. Baumgarten, to which he wished to call attention—namely, that the movement of the stomach against the costal edges produced distinct localized thickenings, and that in corresponding points of the mucous membrane ulcers formed.

Gunshot Wound of the Heart.—Dr. Formad also reported this case. The ball had entered the chest between the fourth and fifth ribs on the left side, and passed through the left ventricle, and was found imbedded in the spinal column. Death was instantaneous. The principal point of interest lay in the fact that the ball had traversed the cavity of the left ventricle near its base without injuring the chordæ tendineæ or the leaflets of the mitral valve.

A Mediastinal Tumor was presented by Dr. Wescott. It had been removed from a man, aged twenty-eight, who had entered the University Hospital a week before. He was a brakeman, with a good family history and personal habits, and no venereal history. He had been in good health and at his work till last July, when dyspnœa developed, and he quit work. About the same time he noticed a tumor in his neck. There was no pain nor difficulty of swallowing. On admission he was in a condition of orthopnœa. Over the left side of the chest there was complete dullness, extending to the right edge of the sternum, with absence of respiratory murmur. The apex-beat of the heart could not be seen or felt. The tumor of the neck involved the superficial lymph glands, and could be traced behind the sterno-cleido-mastoid muscle and down into the chest. There was no inequality of the pupils nor any œdema. At the autopsy, on opening the chest, nothing but a large fleshy mass and the edge of the right lung could be seen. The mass penetrated the chest-wall between the first and second ribs, and became continuous with the tumor in the neck. It was closely attached to the bodies of the dorsal vertebræ from the first to the fourth, filled all the upper part of the left chest, and completely enveloped the great vessels. The œsophagus was pushed to one side, but not compressed. The left lung was completely collapsed, and contained numerous secondary nodules. The heart was pushed down and back, but was normal. The mesenteric glands were enlarged. A section of the tumor showed largely fibrous tissue. The reporter asked whether, in the case of such a large mass, the absence of pressure symptoms was not remarkable.

Dr. J. B. Walker said that, in the absence of pressure symptoms, such a large tumor was in his experience unique, generally very much smaller ones giving rise to marked symptoms.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GYNÆCOLOGY.

The President, Dr. Henry O. Marcy, of Boston, in the Chair.

After calling the section to order, the President made a brief opening address, referring to the eminent services of the late Dr. J. Marion Sims.

Drainage of the Bladder, Kidneys, and Uterus through the Vagina, with and without Graduated Pressure.—A paper on this subject was read by Dr. Nathan Bozeman, of New York (see page 372).

Dr. Graily Hewitt, of London, thought the operation described in the paper promised to be of much value, and would probably lead to important changes in our methods of treating cystitis and affections of the kidney. The ingenuity the author had brought to bear in getting rid of contractions and adhesions by constant pressure was remarkable, but the new operation for the treatment of pyelitis was most original and appeared to promise great results. Hitherto extirpation of the kidney had seemed to be the only treatment available in certain cases. Conservative surgery here stepped in, and in Dr. Bozeman's snake-like sound we seemed to have a very important assistance in carrying out a conservative treatment in appropriate cases.

Dr. A. Hewson, of Philadelphia, had effected much good in the class of cases referred to by Dr. Bozeman by dilating the vagina for twenty minutes daily with air-pressure. He had applied gases—carbon dioxide and hydrogen sulphide—directly to the location of the morbid parts through such instruments, keeping up the application of these gases for at least twenty minutes daily, the yielding and dissipating being apparent in the relief and comfort after the first application.

Rapid Dilatation of the Cervix Uteri was the title of a paper by Dr. W. H. Wathen, of Louisville. The author stated that he would use an anæsthetic in any case of dilatation to a diameter above a third or half an inch.

The Causes and Treatment of Barrenness.—A paper on this subject by Dr. T. More Madden, of Dublin, was read by the secretary. Few gynæcological questions, the author said, came so constantly before us, and none probably were of greater practical importance than those connected with sterility, not only involving, as they did, the physical health of patients, but also in many instances intimately affecting the happiness and welfare of married life. For, at least in his country, child-bearing was held to be one of the chief functions of a woman's conjugal life; while to be sterile was commonly regarded as the protean source of marital troubles. In the paper, in tabular form, there was a statement of the causes of sterility in five hundred and twenty-eight of the cases of infecundity occurring in married women within the child-bearing period of life that had come under observation in the gynæcological department of the author's hospital. The cases might be roughly divided into two classes, viz.: 1. Those in which barrenness was occasioned by sexual impotence or some physical impediment in the passages from the vulvar orifice to the ovaries. 2. Cases of true sterility, or conceptive incapacity from deficiency, congenital or acquired, structural disease, arrest of development, super-involution, etc., of the uterus, or from analogous morbid conditions of its appendages. 3. Cases of barrenness from constitutional causes. 4. Cases in which the causes of infecundity were apparently moral rather than physical, such as sexual incongruity, etc. According to the table, the most frequent of these causes of sterility was stenosis of the cervical canal. And, as the author believed that the operative treatment of such cases, simple as it was deemed by some, required more consideration than it generally received, and frequently proved worse than useless from the disregard of certain details and precautions which he considered essential, he ventured to recommend the adoption of a method of procedure and the use of instruments which he had found advantageous in the curative treatment of stenosis in three hundred and eighty cases of obstructive dysmenorrhœa and sterility traceable to this cause. The essential feature of the method was the separation by cutting and simultaneous forcible expansion of the affected parts, followed by dilatation during the period of cicatrization, so as to prevent their subsequent contraction, and thus to secure the permanent patency of the occluded passage. To attain this result he employed three instruments—namely: a special form of uterine director, which could, generally speaking, be introduced into any cervical canal, however narrow, and along which a serrated triangular, guarded knife was made to travel up through the os internum; and a uterine dilator of great power, by which any required degree of cervical expansion could be effectually secured and accurately gauged. The influence of uterine flexions in the prevention of pregnancy and the treatment he adopted in such cases were next described, together with the management of aphoria when it resulted, as was frequently the case, from chronic endometritis. In like manner, the methods found most serviceable in cases of infecundity due to other causes commonly met with, vaginal, uterine, and ovarian, were briefly reviewed. The author dwelt more fully on the subject of conceptive incapacity from morbid conditions of the Fallopian tubes, as he regarded stenosis, as well as occlusion of these ducts by elytritis and its results, such as hydro- and pyo-salpinx, as far more common causes of sterility than was generally recognized. Moreover, he also held that such tubal diseases might, in many instances, be efficiently dealt with without resort to the serious operative procedures, *i. e.*, the removal of the uterine appendages, which, by some surgeons, were considered invariably necessary, and were by them so freely employed in such cases. He referred at some length to those less heroic alternative measures, such as aspiration and catheterization of the Fallopian tubes, the feasibility and the successful results of which, in appropriate cases, he had demonstrated clinically. Finally, the question of sterility arising from constitutional disorders, and in some instances even apparently irrespective of any physical cause, and the method of dealing with such cases, were also discussed in the paper.

Dr. S. C. Gordon, of Portland, Me., thought that impenetrability of the cervical canal to the semen was seldom a cause of sterility. One very common cause was vaginismus; other causes were abnormal conditions in and about the uterus rendering the organ a poor soil for reproduction.

Dr. C. R. Reed, of Middleport, O., mentioned the fact that the use of Hodge's or Hewitt's pessary was often followed by impregnation in cases where there had been sterility.

Dr. Hewitt thought that the good effects of pessaries in this respect were due largely to their straightening the uterine canal.

Other speakers mentioned barrenness in the husband and excessive sexual indulgence as occasional causes of infecundity.

Pregnancy complicated with Uterine Fibroids was the subject of a paper by Dr. Stephen H. Weeks, of Portland, Me., in which special consideration was given to the following question: When pregnancy is complicated with a large interstitial uterine fibroid, occupying and well-nigh filling the pelvic cavity is it better to induce abortion or premature labor, or to allow gestation to go on to full term, and then deliver by abdominal section? Guided by the light of abdominal surgery, he maintained that in the vast majority of cases it was better to allow pregnancy to go to term, and then, if it was found that delivery was impossible *per vias naturales*, to resort to abdominal section, without waiting until the patient's strength was exhausted by protracted labor. The operation best suited to such cases was the Cæsarean section by Sänger's method, or the removal of the ovaries, and, if possible, the Fallopian tubes.

The Treatment of Uterine Myoma with Ergot.—Dr. Daniel T. Nelson, of Chicago, read an abstract of a paper on this subject, embodying data which had been furnished to him by a number of physicians to whom he had sent letters of inquiry in 1886. The author divided such tumors into the subserous, the interstitial, and the submucous. In their reports his correspondents had included cases of myoma, fibro-myoma, fibroma, and fibro-cystoma. The investigation justified the conclusion that great advantage was to be derived from the use of ergot; but, except in the submucous variety, it should not be used in doses sufficient to cause painful contractions of the uterus for any considerable length of time, and in the submucous variety only when the os uteri was dilating. In one case it had been shown that large and long-continued doses of ergot did not cause gangrene of any part of the body.

(*To be continued.*)

Book Notices.

A Reference Hand-book of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-lithographs and Fine Wood Engravings. Edited by Albert H. Buck, M. D. Vols. III, IV, and V. New York: William Wood & Co., 1886, 1887. Pp. 813–816–813.

With these three volumes Dr. Buck's great undertaking is well advanced toward completion; the last article, the alphabetical order being followed, is on "Pott's Disease." The most noteworthy articles in the three volumes are entitled "Face," by Dr. Frank Baker; "Fallopian Tubes," by Dr. W. Gill Wylie; "Fever," by Dr. Frank W. Chapin; "Field Surgeons," by Dr. Joseph R. Smith; "Fœtus," by Dr. Charles Sedgwick Minot; "Forceps (Obstetrical)," by Dr. Theophilus Parvin; "Fractures," by Dr. Lewis A. Stimson; "Fungi," by Dr. F. Peyre Porcher; "Gangrene," by Dr. John B. Hamilton; "Genital Organs," by Dr. Edmund Andrews; "Glaucoma," by Dr. Adolf Alt; "Gonorrhœa," by Dr. Abner Post; "Gout," by Dr. Walter Mendelson; "Gynæcological Examination," by Dr. Henry C. Coe; "Habitations," by Dr. J. Pickering Putnam; "Hæmorrhage," by Dr. Charles B. Nancrede; "Hand," by Dr. Thomas L. Stedman; "Headache," by Dr. Norman Bridge; "Head (Wounds of the)," by Dr. Roswell Park; "Health Resorts," by Dr. Huntington Richards; "Hearing," by Dr. William Gilman Thompson; "Heart," by Dr. Mary Putnam Jacobi, Dr. Frederick C. Shattuck, Dr. Alfred L. Loomis, Dr. F. Peyre Porcher, Dr. Henry N. Heineman, Dr. William Gilman Thompson, and Dr. Morse K. Taylor; "Heat (Animal)," by Dr. Henry Herbert Donaldson; "Hernia," by Dr. H. H. Mudd and Dr. Middleton Michel; "Hip Joint," by Dr. Frank Baker and Dr. Thomas L. Stedman; "Histological Technique," by Dr. George Cornell Freeborn; "Hospitals," by Dr. Edward Cowles; "Hydrocele," by Dr. N. Senn; "Hydrocyanic Acid," by Dr. Edward Curtis and Dr. R. A. Witthaus; "Hygiene," by Dr. Alfred A. Woodhull and Dr. Albert L. Gihon; "Hypermetropia," by Dr. John Green; "Hysterectomy," by Dr. Andrew F. Currier; "Impregnation," by Dr. Charles Sedgwick Minot; "Infancy," by Dr. A. D. Blackader; "Inflammation," by Dr. W. T. Councilman; "Insanity," by Dr. Theodore H. Kellogg, Dr. Henry R. Stedman, Dr. Edward N. Brush, Dr. William B. Goldsmith, Dr. N. S. Davis, and Dr. James H. Etheridge; "Intermittent Fever," by Dr. Edward W. Schauffler; "Intestinal Obstruction," by Dr. George Ross and Dr. Francis J. Shepherd; "Intestine," by Dr. William Gilman Thompson, Dr. T. L. S., Dr. James Bell, Dr. Israel T. Dana, Dr. W. S. Cheesman, and Dr. Joseph D. Bryant; "Iritis," by Dr. Samuel Theobald; "Iron," by Dr. Edward Curtis; "Jaundice," by Dr. Reginald H. Fitz; "Jaws," by Dr. Charles S. Briggs; "Joints," by Dr. Joseph D. Bryant; "Kidney," by Dr. J. West Roosevelt, Dr. Walter Mendelson, Dr. G. Baumgarten, Dr. Hermann M. Biggs, Dr. Charles E. Hackley, and Dr. Joseph Ransohoff; "Labor," by Dr. Charles Francis Withington; "Lacrymal Apparatus," by Dr. Samuel Theobald; "Laryngectomy," by Dr. Roswell Park; "Laryngoscope," by Dr. D. Bryson Delavan; "Larynx," by Dr. Benjamin F. Westbrook, Dr. George M. Lefferts, Dr. D. Bryson Delavan, Dr. John Noland Mackenzie, Dr. Joseph O'Dwyer, Dr. Francke H. Bosworth, Dr. Ethelbert Carroll Morgan, and Dr. Morris J. Asch; "Leucocythæmia," by Dr. Frederick P. Henry; "Ligature," by Dr. N. Senn; "Litholapaxy" and "Lithotomy," by Dr. Arthur T. Cabot; "Lithotrity," by Dr. W. H. Hingston; "Liver," by Dr. Thomas E. Satterthwaite, Dr. John H. Musser, Dr. James M. French, Dr. Edmund C. Wendt, Dr. Charles W. Allen, Dr. L. L. McArthur, and Dr. Hermann M. Biggs; "Lungs," by Dr. Donald M. Cammann, Dr. Charles E. Quimby, Dr. S. S. Herrick, and Dr. F. A. Manning; "Lupus," by Dr. Arthur Van Harlingen; "Malaria," by Dr. Charles Smart and Dr. Thomas D. Swift; "Malpractice," by Dr. Henry Childs Merwin; "Massage," by Dr. Douglas Graham; "Mastoid Operations," by Dr. Albert H. Buck; "Measles," by Dr. I. E. Atkinson; "Melanosis," by Dr. James M. French; "Menstruation," by Dr. William Gilman Thompson; "Mercury," by Dr. Edward Curtis and Dr. William B. Hills; "Miasm," by Dr. Charles Smart; "Micro-organisms," by Dr. George Cornell Freeborn; "Microscopy," by Dr. George Wilkins; "Milk," by Dr. William Gilman Thompson and Dr. T. Wesley Mills; "Muscles," by Dr. Francis J. Shepherd and Dr. Samuel B. Woodward; "Muscular Tissue," by Mr. Simon H. Gage; "Myopia," by Dr. H. Gradle; "Neck," by Dr. Francis J. Shepherd; "Necrosis," by Dr. Thomas M. Markoe; "Nerves," by Dr. James K. Thatcher and Dr. Edward T. Reichert; "Nerve Tissue," by Dr. Henry Koplik; "Neuralgia" and "Neurasthenia," by Dr. James J. Putnam; "Neuritis," by Dr. James Stewart; "Nomenclature," by Dr. J. F. Baldwin; "Nose," by Dr. D. Bryson Delavan and Dr. John Noland Mackenzie; "Nutrition," by Dr. R. H. Chittenden; "Occupation," by Dr. R. L. MacDonnell; "Œsophagus," by Dr. F. A. Manning; "Ophthalmoscope," by Dr. John Green and Dr. William Oliver Moore; "Opium," by Dr. W. P. Bolles and Dr. Charles P. Bancroft; "Optic Nerve and Retina," by Dr. Adolf Alt; "Optometry," by Dr. John Green; "Orbit," by Dr. George C. Harlan; "Orthopædic Surgery," by Dr. V. P. Gibney; "Osteotomy," by Dr. Charles Talbot Poore; "Ovaries," by Dr. H. C. Coe; "Ovariotomy," by Dr. James B. Hunter; "Ovum," by Dr. Charles Sedgwick Minot; "Ozæna," by Dr. Ethelbert Carroll Morgan; "Pancreas," by Dr. N. Senn; "Paralysis," by Dr. Leopold Putzel, Dr. Frederick P. Henry, and Dr. Henry W. Berg; "Paraplegia," by Dr. W. R. Birdsall; "Patella," by Dr. George B. Fowler; "Pelvic Cellulitis" and "Pelviperitonitis," by Dr. W. W. Jaggard; "Pelvis," by Dr. Frank Baker; "Penis," by Dr. Abner Post; "Pericardium," by Dr. Edward Tunis Bruen; "Perineorrhaphy," by Dr. T. Johnson Alloway; "Perinæum," by Dr. T. Johnson Alloway and Dr. Francis J. Shepherd; "Periodicity," by Dr. Rudolph Matas; "Peritonæum," by Dr. Frank Baker; "Peritonitis," by Dr. George Ross; "Pessaries," by Dr. Horace T. Hanks; "Pharmacopœia," by Dr. Charles Rice; "Pharynx," by Dr. John N. Mackenzie, Dr. Benjamin F. Westbrook, and Dr. D. Bryson Delavan; "Phosphorus," by Dr. Edward Curtis and Dr. William B. Hills; "Photomicrography," by Dr. George M. Sternberg; "Phthisis," by Dr. E. W. S. and Dr. Edward W. Schauffler; "Physiognomy," by Dr. Dallas Bache; "Placenta," by Dr. Charles Sedgwick Minot; "Plastic Surgery," by Dr. Joseph Ransohoff; "Pleurisy," by Dr. Frederick C. Shattuck; "Pneumonia in Children," by Dr. William P. Northrup; "Poisonous Insects," by Dr. Charles Valentine Riley; "Poisons," by Dr. Charles Harrington and Dr. R. H. Chittenden; "Pons Varolii," by Dr. M. Allen Starr; "Post-mortem Examinations," by Dr. W. W. Gannett and Mr. Henry A. Riley; "Potassium," by Dr. Edward Curtis; and "Pott's Disease," by Dr. Edward H. Bradford.

In this list, which on account of its importance we have thought best to make pretty full, we have included only major headings; the articles in connection with which more than one author is mentioned are composed of separate essays on subjects grouped under those headings. In the case of the organs and regions of the body, such subdivisions relate to the anatomy, the physiology, the diseases, and the surgery of the part. This arrangement we think judicious, and it must be said that the various authors have been well chosen and that they have handled the subjects committed to them very satisfactorily. The colored illustrations seem to us distinctly better than some of those that were contained in the preceding volumes of the work. The woodcuts are for the most part quite appropriate and well executed.

The Student's Guide to Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital, Assistant Surgeon to the Royal London (Moorfields) Ophthalmic Hospital, etc. Third American from the Fourth English Edition. With a chapter on Examination for Color Perception. By William Thomson, M. D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1887. Pp. xx–13 to 475. [Price, $2.]

The third American edition of Nettleship's hand-book for students in diseases of the eye preserves the reputation which the first edition gained for itself as among the best monographs upon the subject in any language. The author has incorporated into this issue all the essential advances in ophthalmology that have been made since the last English edition was published. These additions consist of a brief but satisfactory discussion of the subject of retinoscopy, or the shadow test; the systemic prevention of ophthalmia neonatorum; the treatment of trachoma with jequirity; some facts relating to affections of the internal muscles of the eye; Dianoux's and Watson's operations for the relief of entropium; and some facts in regard to ophthalmoplegia externa. The chapters on diseases of the cornea, cataract, and glaucoma have been largely rewritten. We think the author is in error when he says that "opacities in the lens never clear up except sometimes in diabetes," for cases have been reported in which the opacity undoubtedly disappeared, and the reviewer has seen two such cases. There are a number of new woodcuts in this edition, and some of the old ones have been replaced by better ones, much to the advantage of the text. The book is essentially adapted to the wants of the beginner in clinical ophthalmology, and as such is meeting with deserved success.

The Treatment of Hæmorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M. D., Physician to St. Elizabeth's Hospital, etc. The Echo Music Co.: Lafayette, Ind., 1887. Pp. 9 to 63.

In this little book the author has described the treatment of hæmorrhoids by injection, and stated nearly all its advantages. The only things he has omitted are its disadvantages, the accidents attending it, and the liability to recurrence after what often seems a perfect cure. The book contains nothing new.

GENERAL LITERARY NOTES.

Dr. Johann Schnitzler's new series of essays, entitled "Klinische Zeit- und Streitfragen," so far as it has thus far been published, includes the following: "On the Present Status of Bacteriology, and its Relations to Practical Medicine," by Dr. A. Weichselbaum; "Hypnotism, with special reference to its Clinical and Medico-legal Significance," by Dr. Obersteiner; "Cardiac Dyspnœa and Cardiac Asthma," by Dr. von Basch; and "The Present State of the Therapeutics of Syphilis," by Dr. M. von Zeissl. The following are announced for succeeding parts: "New Therapeutic Methods in Skin Diseases," by Dr. Grünfeld; "Atony of the Stomach," by Dr. von Pfungen; "Neuroses of the Stomach," by Dr. Glax; "Recent Methods of Investigation and Treatment in Intestinal Diseases," by Dr. Oser; "The Surgical Treatment of Intestinal Diseases," by Dr. K. Maydl; and "Bronchial Asthma," by Dr. Schnitzler.

Among recent foreign publications we note the following:

F. Alcan, Paris.—A. Tartenson, "Traité clinique des fièvres larvées." Preface by G. Barral. (6*fr.*)

J. B. Baillière & Cie., Paris.—E. Cohen, "Orteil en marteau. Nouveau traitement par ostéotomie cunéiforme." (2*fr.*)

F. Vallardi, Rome.—G. Chiarleoni, "Malaria e funzioni della riproduzione nella donna." (1*l.* 25.) —— G. Turazza, "Antisepsi ed antisettici nelle medicazioni chirurgiche, con appendice sull' impiego di alcuni antisettici nella medicina interna." (4*l.*)

P. Aguilar, Valencia.—Aguilar y Lara, "La Nueva Cirugía Antiséptica." (28 *reales.*)

BOOKS AND PAMPHLETS RECEIVED.

A Study of the Phenylhydrazin Test for Sugar in Urine, as applied by Ultzmann. By A. R. Bond, M. D., of Baltimore, Md. [Reprinted from the "Medical News."]

Maryland State Board of Health, 1887. The Sanitation of Cities and Towns and the Agricultural Utilization of Excretal Matters. Report on Improved Methods of Sewage Disposal and Water Supplies. By C. W. Chancellor, M. D., Secretary of the State Board of Health of Maryland, etc.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. VIII. Legier–Medicine (Naval). Washington: Government Printing Office, 1887. Pp. 1078.

Hand-book of Gynæcological Operations. By Alban H. G. Doran, F. R. C. S., Surgeon to Out-patients Samaritan Free Hospital for Women and Children, London. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii–485. [Price, $4.50.]

Surgery: its Theory and Practice. By William Johnson Walsham, F. R. C. S., Assistant Surgeon to St. Bartholomew's Hospital, etc., London. With Two Hundred and Thirty-six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix–9 to 655. [Price, $3.]

Vaso-renal Change *versus* Bright's Disease. By J. Milner Fothergill, M. D., Edin., Physician to the City of London Hospital for Diseases of the Chest (Victoria Park), etc. New York: G. P. Putnam's Sons; London: Baillière, Tindall, & Cox, 1887. Pp. xii–218. [Price, $2.50.]

Differential Diagnosis of the Diseases of the Skin, for Students and Practitioners. By Condict W. Cutler, M. S., M. D., etc. New York and London: G. P. Putnam's Sons, 1887. Pp. vi–139. [Price, $1.25.]

Diarrhœa and Dysentery. Modern Views of their Pathology and Treatment. By Prof. Alonzo B. Palmer, M. D., LL. D., etc. Detroit: George S. Davis, 1887. [Physician's Leisure Library.]

Transactions of the Texas State Medical Association. Nineteenth Annual Session, held at Austin, Texas, April 26, 27, 28, and 29, 1887.

Hygiène infantile. Causes de la morbidité et de la mortalité de la première enfance à Buénos Ayres. Par le Docteur Émile R. Coni, Membre honoraire de l'Association Médica Bonaereuse du Círculo Médico Argentino, etc. Ouvrage couronné au concours Rawson par la Faculté des Sciences Médicales de Buénos Ayres. Buénos Ayres: Paul, 1886. Pp. xix–228.

Veratrum Viride. By G. W. Moody, M. D., Shelbyville, Tenn. [Reprinted from the "Transactions of the Medical Society of the State of Tennessee."]

Transactions of the Colorado State Medical Society. Seventeenth Annual Convention, Denver, June, 1887.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By L. Emmet Holt, M. D.

The Specific Contagium of Scarlet Fever (Jamieson and Edington, "Brit. Med. Journal," June 8, 1887; George Thin, "Brit. Med. Journal," August 20, 1887).—The bacteriological part of the first paper is a record of experiments by Dr. Edington, of Edinburgh, made at the suggestion of Dr. Jamieson, who for several years has advocated the free use of disinfectants about the throat in the early part of scarlet fever, and antiseptic inunctions during desquamation as an effectual means of preventing the spreading of the disease. . Many cultivation experiments were carried on with bacteria obtained from the blood and organs, and also with those obtained from the skin in different stages of the disease. One bacillus was found constantly present in the blood if taken before the third day of the fever, and the same one was found constantly present in the desquamating scales if taken after the twenty-first day. This he concludes is the contagium of the disease. Inoculations were practiced upon rabbits and guinea-pigs, and caused an erythema followed by desquamation. In young calves they caused a febrile condition and a red, dry rash, followed by desquamation. Experiments were made with scales from seven persons who were being treated by Jamieson's plan of baths and inunction during desquamation. In only two was the bacillus found, and in these six days were required for the development of the bacillary pellicle, while usually only twenty-four or thirty-six hours were required for a profuse growth.

In the second paper the whole subject is critically reviewed, beginning with the epidemic connected with the Hendon cow disease and the experiments by Dr. Klein upon those animals. The facts that three dairies were affected by a disease which all the evidence goes to show was in all cases the same, and that no cases of scarlatina originated from the milk of two of them, militate strongly against the cow disease being the cause of the outbreak of the epidemic. Further, the milkers who were inoculated by their hands had in no case anything resembling scarlet fever, but local sores usually, with only a slight constitutional reaction, such as might be produced by any septic infection. While there is no doubt expressed that the streptococcus which Dr. Klein isolated from the eruption on the udders and the one found in the blood in cases of human scarlatina are identical, still this is very far from establishing the fact that the streptococcus is the *cause* of scarlatina. The symptoms which followed inoculation of animals with this organism and the lesions found in fatal cases are by no means peculiar to scarlatina, but are equally well explained by septic inflammation or blood poisoning. Edington's bacillus is regarded with more favor. There are still lacking, however, sufficient test experiments with the microbes of the skin in health and in other diseases than scarlatina, without which it will be impossible to accept his conclusions. Thus far they seem the best that have been offered.

Diphtheria in Animals (Turner's Report to the Local Government Board, "Brit. Med. Journal," August 20, 1887).—The report of which the article referred to is an abstract has collected our knowledge on the subject. An instance is related of the disease in a pigeon, inoculation of other pigeons with the membrane reproducing the affection. Epidemics occurred in Braughing and other villages, where diphtheria caused many deaths among fowls before any cases occurred in the families. Swine and horses are also known to suffer from this disease. Instances are related in which cats have become infected from man, and an example of the opposite is related. Successful inoculation of cats has been repeatedly practiced. A shepherd's family suffered from diphtheria after the disease had been prevailing among the sheep. Loeffler's bacteriological studies in diphtheria have led him to the conclusion that the bacillus is different in the calf and in the fowl, and that the one found in man differs from both of them. These facts militate against the doctrine of the identity of the disease in these different animals with that in man. It seems, however, quite possible that the lower animals may be infected with human diphtheria.

Bacteriological Observations in Summer Diarrhœa (Tompkins, "Lancet," August 20, 1887).—All the observations were made upon organs taken from the body within six hours after death. Conclusions drawn from bacteria found at a later period the writer regards as untrustworthy. No satisfactory cultivations could be made with blood from the heart, nor from the spleen. Cultivations were obtained from the mesenteric glands in three cases out of five, and from the kidneys in every case. The most abundant, of course, were those from the walls of the intestine and intestinal ulcers. These were so rapid in development that in three days the nutrient jelly was liquefied; it also became alkaline in every instance, and the most powerful odor of decomposition was present even to the fifth generation. The chief bacillus is described as somewhat resembling that of Asiatic cholera, but shorter and thicker. The air coming from sewer ventilators in the worst parts of the towns was found to contain from 2,000 to 6,000 micro-organisms to the cubic metre; in the best districts, from 60 to 900. Cultivations were obtained from these germs and resembled those made from the organs, but were much slower in their growth. Some experiments were made and diarrhœal attacks produced by inoculation. The writer thinks sufficient evidence has been adduced to show some connection between the organisms and the disease, but the exact relation is not yet proved.

Fibrinous Deposits within the Heart in Diphtheria and Some other Diseases of Children (Chaffey, "Brit. Med. Journal," July 16, 1887).—The facts of this paper were collected from two hundred autopsies, and the deposits were such as to indicate ante-mortem formation. They were present to a marked degree in four out of fourteen cases of phthisis, in three out of thirty-three cases of tuberculosis (other than phthisis), and in over one half of twenty-three cases of diphtheria. In all the cases of diphtheria, except one ending in death by paralysis, some deposits existed. In seventeen of these cases the heart muscle was examined, and more or less general fatty degeneration found in every instance. The same change was found in two of the cases of tuberculosis. Hypostatic pneumonia or congestion was associated in most cases with deposits on both sides of the heart; collapse and emphysema were present in nearly all the cases of diphtheria. When the deposits were only on the right side of the heart (three cases) there was collapse at the bases and posterior parts of the lungs, but no pneumonia or congestion. This supports the view that excessive deposits in the right heart lead to collapse of lung; there is, however, post-mortem evidence that the pneumonia and congestion are secondary to the collapse.

Spina Bifida Occulta and its Relation to Ulcus Perforans and Talipes Varus (Bland Sutton, "Lancet," July 2, 1887).—This deformity is defined as a defect in the arches of the vertebræ, but without any tumor appearing externally. Four cases, previously reported by Virchow, Recklinghausen, and others, are collected, and one is added by the writer. In every case the deformity has been accompanied by a luxuriant growth of hair, usually limited to the lumbar region over the vertebral fissure, but in one case the growth covered the body. Virchow has compared this hairy growth to the tuft of feathers on the head of the Polish fowl and the accompanying cranial defect beneath.

Congenital club-foot was associated in several cases, and in three "perforating ulcer" of the foot existed, these persons being usually seen in adult life. Recklinghausen examined the nerves of one of these patients after amputation, and found no changes; there was, however, a considerable degree of hypertrophy of the muscular coats of the arteries. Sutton made a similar observation in his own case.

Notching of the Incisor Teeth not due to Syphilis (J. Hutchinson, "Brit. Med. Jour.," May 28, 1887).—There is a notching of the upper incisor teeth, affecting the two central ones of the permanent set, which is often confounded with that due to syphilis, although having no connection with it. The points of distinction are that the non-syphilitic tooth is wide at its free edge, and is hard and craggy, while that from syphilis is pointed and worn down. A case is mentioned where such notched teeth were hereditary in a family, the defects occurring in pairs, and never affecting the whole row.

Congenital Sarcoma of the Parotid and the Neck (Tsoner, "Centralbl. für Kinderh.," 1887, No. 9).—These neoplasms are very rare. The author has been able to find only two recorded in literature. A child of three months was seen which had presented since it was two weeks old a parotid swelling. It rapidly increased, involving the buccal cavity, and pressing upon the larynx and spine. It was removed by operation, but the child survived only a few days. Microscopically, the tumor was made up of small round and fusiform cells.

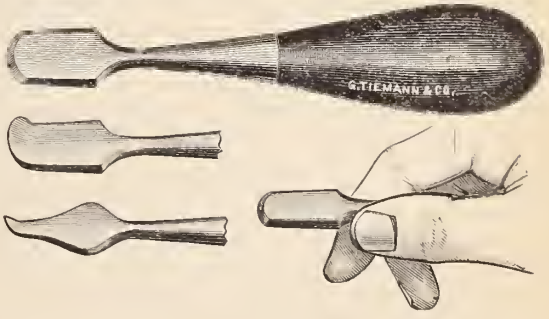
Antifebrine in Febrile Diseases of Children (Widowitz, "Revue mensuelle des mal. de l'enfance," from "Wiener med. Wochenschrift," 1887, Nos. 17 and 18).—The author's observations were made upon fifty-four cases, made up as follows: Scarlatina, 4; measles, 11; measles and pneumonia, 11; the remainder being tuberculosis, erysipelas, pneumonia, bronchitis, amygdalitis, gastritis, and enteritis. In all cases the temperature began to fall within ten to twenty minutes after the dose. The rapidity of the decline depended less upon the dose than upon the disease and idiosyncrasy. The amount of fall in all cases was remarkably constant. Upon the general condition only favorable effects were witnessed. Excitement was replaced by peaceful sleep. In several cases where death seemed imminent, as in pneumonia, the patients being semi-comatose, with rapid pulse and superficial respiration, a complete transformation of the scene was brought about by the drug. Its effects were less striking in some diseases than in others. Thus, in scarlatina and erysipelas the fall in temperature was noticeably less than in measles, pneumonia, both croupous and catarrhal, and tuberculosis. The pulse was not always reduced in frequency proportionately to the temperature. It became fuller, however, and the respirations were deeper and more regular. The drug was administered in the form of a powder; for children from three to four years the dose given was ten centigrammes (gr. $1\frac{2}{3}$). The entire quantity for twenty-four hours can be increased to two grammes (gr. xxx). Antifebrine had no influence upon the duration of the disease. In some of the cases of croupous pneumonia slight cyanosis was seen.

New Inventions, etc.

A NOVEL PERIOSTEAL ELEVATOR.

By W. W. Van Arsdale, M. D.,
INSTRUCTOR IN SURGERY, NEW YORK POLYCLINIC; ATTENDING SURGEON, EASTERN DISPENSARY.

The accompanying sketch illustrates a new periosteal elevator for use in subperiosteal resection of bones. The advantages of the instrument lie chiefly in its simplicity. It is short, so that the fingers of the operator are brought into close proximity to the field of operation, thereby rendering finer work possible, while the handle is no larger than to enable it to be conveniently and securely grasped with the entire hand. In this position the end of the handle rests against the root of the hand, facilitating the employment of considerable force in thrusting, while the flat shape of the handle permits of a very forcible lateral rotary prying motion (as is given to screw-drivers), not so readily attained with other models. The point of the instrument is shaped somewhat like a spade, an abrupt bevel at the end forming the dull cutting edge, which should not be sharp enough to lacerate the periosteum. Above the spade-like portion the shaft is slender, so as to permit the operator to place his thumb laterally upon it with its tip resting upon the shoulder of the blade. The thumb should not be placed on top of the blade, as with other elevators. At the point where the shaft enters the handle an obtuse angle is formed laterally by the bulging of the handle, and into this angle the flexed second joint of the middle finger fits snugly. The instrument is a so-called aseptic one, the hard-rubber handle having been vulcanized on to the metal while hot, and the whole being afterward finished in one piece. In this manner all crevices or rivet-holes are avoided, which might possibly give lodgment to septic germs.



Besides the straight elevator described, two other similar ones accompany each set, differing only in the shape of the blade. The one is slightly curved on the flat for the purpose of facilitating the first detachment of the periosteum after incision in cases where the soft parts covering the bone form a thick layer, and also for use in the latter stages of the periosteal detachment from the further aspect of the bone. The other presents a sharp point, also slightly curved, with lateral bevels for use in corners, etc. The set has been made for me by Messrs. Tiemann & Co., of this city.

207 West Fifty-sixth Street.

Miscellany.

The Medical Society of Virginia.—The eighteenth annual session will be held in Richmond on the 18th, 19th, 20th, and 21st inst. The programme includes the annual address to the public and the profession on "Some of the Difficulties in the Way of the Successful Practice of Medicine," by Dr. W. S. Christian, of Urbanna; the address of the president, on "The Advantages of the Practical Study of Medical Science as a Means of promoting Professional Success," by Dr. Bedford Brown, of Alexandria; a general discussion on "The Choice of Anæsthetics" will be opened by Dr. Hunter McGuire, of Richmond; reports on advances in the several departments of medicine, anatomy, and physiology are to be made by Dr. J. R. Godwin, of Fincastle; on chemistry, pharmacy, materia medica, and therapeutics, by Dr. C. C. Conway, of Rapidan; on obstetrics and diseases of women and children, by Dr. H. M. Clarkson, of Haymarket; on surgery, by Dr. R. S. Powell, of Alexandria; on practice of medicine, by Dr. S. B. Morrison, of Rockbridge Baths; on hygiene and public health, by Dr. R. I. Hicks, of Warrenton; on ophthalmology and otology, by Dr. C. M. Shields, of Richmond; and on psychology and neurology, by Dr. R. J. Preston, of Marion. The following papers are also promised: "Report of a Case of Death from Ether," by Dr. J. W. Bryant, of Petersburg; "Uterine Colic," by Dr. I. S. Stone, of Lincoln; "Importance of an Early Diagnosis of Occipito-posterior Positions, with Suggestions as to their Management," by Dr. H. M. Nash, of Norfolk; "Report of Operations on Twenty-five Individuals in which the Electro-osteotome was used as a Bone-cutting Instrument," by Dr. Milton Josiah Roberts, of New York; "Report of a Case of Laparotomy for Treatment of Pistol-shot Wound of the Intestines," by Dr. A. S. Priddy, of Keysville; "Ætiology of Zymotic Diseases—Water and Milk," by Dr. M. A. Rust, of Richmond; "Some Points in Pathogenesis in the Light of Recent Researches; its Influence on the Therapeutics of To-day," by Dr. R. M. Slaughter, of Theological Seminary: "Value and Proper Use of Arsenic in Diseases of the Skin," by Dr. G. H. Rohé, of Baltimore; "Medical Paupers," by Dr. C. R. Cullen, of Richmond; "Sore Throat and Every-day Nasal Troubles," by Dr. J. A. White, of Richmond; "Moral Insanity," by Dr. J. S. Conrad, of St. Denis, Md.

A Practical and Successful Mode of Disinfecting the Room in Case of Cancer.—Dr. H. Gerould, of Cleveland, O., writes that from September, 1886, until March, 1887, he had in his house, and under his daily care, a patient with uterine cancer. To counteract the offensive odor of the disease he made repeated experiments with the prominent disinfectants. The following proved to be all he could desire, viz.: 3 drachms of potassium nitrate dissolved in 8 ounces of Platt's chlorides, full strength. In this he saturated thin muslin (cheese cloth), then dried it thoroughly. When it was necessary to cleanse or purify the room, he burned small strips of the cloth on a shovel in different parts of the room and under the bed-clothing. The effect was magical. Almost instantly all offensive odors disappeared. This was repeated when necessary, the potassium nitrate being used to aid combustion. The result was such that no discomfort was experienced by the attendants, and no offensive odor could be detected in the adjoining rooms. This was daily remarked by friends. The undertaker said it was the first case of death from cancer where he could detect no trace of the disease. This method of disinfection, the writer adds, would be equally efficient in all contagious, pestilential, or infectious diseases.

The American Exhibition in London.—The "Lancet" says:

"During the splendid weather we have enjoyed this year vast crowds of people have thronged to the American Exhibition. The pleasure that has rewarded the effort of a visit may, in some instances at least, have also conveyed a few useful suggestions. The exhibition, it is true, is small, and does not contain many remarkable exhibits. The enterprise has certainly not received the support it merited at the hands of American manufacturers. There seemed, at first, to have existed some lack of confidence, which must now be the subject of very keen regret on the part of those who failed to respond. 'Buffalo Bill,' however, has proved a host in himself, and we can not regard his entertainment as altogether devoid of any bearing on questions relating to health. On the contrary, the vigor and physical agility of the entire troop must stimulate the love of wholesome outdoor exercises. Such exhibitions are, therefore, likely to help those who by every means seek to improve the strength and endurance of the people.

"Within the building of the exhibition itself, one of the most striking features is the plentiful supply of temperance drinks. Evidently this is a great problem. How can we provide a drink that shall be really palatable and yet free from alcohol; that shall consist in the main of water, and yet shall not contain the germs of disease too often present in what is called potable water? Messrs. John Matthews, of New York, seem in all but one important particular to have solved this problem. They have a magnificent marble fountain, standing some thirty feet high, where iced carbonated beverages are served from an apparatus carefully made so as to be free from all base metals that might affect the water. This water, further, is distilled in a special engine-house just outside the main building, and then aerated with compressed carbonic-acid gas. Thus the water is perfectly safe, the pure syrups added give it a very pleasant flavor, and the only fault to find is the high price. While fourpence is charged per glass, this can not become a popular temperance beverage. Should some temperance stimulant be required, these waters can be mixed with the acid phosphate liquid prepared by Professor E. N. Horsford, which has a great sale in America. This consists of a solution of phosphates of lime, magnesia, potash, and iron, with phosphoric acid.

"Close to the soda-water fountain will be found the interesting exhibits of Messrs. William R. Warner & Co., American chemists. They exhibit a preparation called 'bromo-soda,' each dose of which consists of twenty grains of bromide of potassium and one grain of caffeine, made up in effervescing granules. The same firm show a great variety of soluble coated pills and granules that are elegantly prepared and conveniently packed into very small compass. Their 'ingluvin' powder is at least a historical curiosity. From time immemorial the Chinese and the Caucasians have mixed the gizzards of fowls with a variety of dishes, and this has been considered as a wonderful remedy for indigestion. In China chicken gizzards are placed in hot water, reduced to pulp, and mixed with spices, a spoonful being given at meal-times. Experiments have now shown that the gizzard contains a powerful nitrogenous radical that possesses the qualities of pepsin, and is easily retained on the stomach.

"Among other exhibits we noticed an automatic dispensary. By dropping a penny into an aperature, a pill corresponding to the inscription can be withdrawn from the apparatus. Such a happy-go-lucky method of treating human ailments is liable to lend itself to some abuses and not a few accidents; and we must confess that, even in this age of steam and machinery, we are not yet quite prepared to give a license or diploma to a cast-iron mechanical medicine man. Messrs. Seabury and Johnson show plasters for which they have acquired a wide reputation throughout the United States. Messrs. Frank Giles and Sons exhibit a patent felt paper which is very well adapted to packing medicine bottles so as to prevent their breaking, and only costs sixpence the square yard.

"An American Exhibition naturally contains alimentary products, and these, as tending to reduce the price of food, are of assistance in maintaining the health of the poorer classes. Among this class of exhibits will be found the Fairbank Canning Company and the Armour Canning Company of Chicago. Close by, the Johnson Fluid Beef Company distributes beef-tea to all the visitors, and thus seeks to increase the popularity of its useful and nutritious extract. Perhaps among the food exhibits the most remarkable are those of Messrs. Gordon and Dilworth, of New York. Apart from a most luxurious display of preserved fruits, we have some calf's-foot-jelly mixed with port or sherry. The glass jars are closed in a patent manner, and the opening is large enough to allow the jelly to be taken out with a spoon, so that it need not be melted as when in bottles. All the preserves are in glass, and this helps to keep the flavor; nor can any chemical action occur, as is sometimes the case with tinned fruits, etc. Finally, we should not omit to mention that in the grounds there is a medical station with a physician in attendance, and that the Exhibition also possesses several ambulances. Thus it will be seen that there are at least a few points of special interest to medical visitors, though these are not numerous."

An Institution for the Weir Mitchell Treatment has been opened in Burlington, Vt., by Dr. A. J. Willard, late superintendent and resident physician of the Mary Fletcher Hospital. There seems to be a need for such an institution, and the auspices under which Dr. Willard's has been opened are such that we do not doubt that it will be well supported.

The New Surgeon-General of the State of North Carolina.—Dr. Hubert Haywood, of Raleigh, has been appointed to fill the vacancy caused by the resignation of Dr. Eugene Grissom. Dr. Haywood, who was graduated from Bellevue Hospital Medical College in 1879, has served for a number of years as Assistant Surgeon-General, in which capacity he has given great satisfaction in the administration of the affairs of the office, and his promotion is a deserved one.

The City Board of Health.—The following action has recently been taken by the board:

Whereas, Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. D. M. Stimson, Dr. George F. Shrady, and Dr. J. O'Dwyer, have been invited by this board to act as consulting physicians and surgeons of the Willard Parker Hospital and of other hospitals of this department in East Sixteenth Street, and

Whereas, They have all willingly accepted the trust; be it therefore

Resolved, That Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. D. M. Stimson, Dr. George F. Shrady, and Dr. J. O'Dwyer be and are hereby appointed consulting physicians and surgeons of the Willard Parker Hospital and other hospitals of this department on East Sixteenth Street, without compensation, and that they be requested to meet and organize at their earliest convenience, and to submit to this board for its approval a plan contemplating the best interests of the sick in these hospitals.

Resolved, That Dr. T. M. Prudden and Dr. H. M. Biggs be and are hereby appointed pathologists of the Health Department and of the hospitals under its control, without compensation.

Resolved, That postal cards properly inscribed be provided by this board for the reporting of contagious disease by the medical profession of this city, and that they be furnished the profession for this purpose on application to the office for contagious diseases, 309 Mulberry Street.

"REPORT OF CONTAGIOUS DISEASE.

"Physicians will greatly facilitate the work of this department by filling in one of these cards by the bedside of the patient and dropping it at once in the nearest P. O. box:

Copy of Card.

"NEW YORK, , *188* .
"Name of Patient.......................Age.................
"Residence.... ....
"Disease..................No. of Families in House.... ....
"How contracted..
"......................., M. D.
"Residence.................................

"*Note.*—Whenever the immediate attention of this department is required, please telegraph from the nearest police station-house by day or night, or telephone directly to this office, which is *always* open.

"Telephone No., 251 Spring."

Resolved, That on and after January 1, 1888, the lay sanitary inspectors be graded as follows:

FIRST GRADE.—This grade shall consist of all such lay sanitary inspectors as may thereafter become connected with this branch of the Health Department, together with such other lay sanitary inspectors as are then connected with this branch of the service who have served the Health Department satisfactorily in the capacity of lay sanitary inspectors for three years or less. The salary of this grade shall be $1,200 per annum.

SECOND GRADE.—This grade shall consist only of such members of the first grade as shall have served satisfactorily in that grade for the term of three years. The term of service of each member of this grade shall be five years, and the salary shall be $1,500 per annum.

THIRD GRADE.—This grade shall consist of only such lay sanitary inspectors as shall have served satisfactorily in the second grade for the full term of the same. The salary of this grade shall be $1,800 per annum.

The Health of Boston.—The following numbers of cases and deaths from infectious diseases were reported to the Board of Health during the week ending Saturday, September 24th: Diphtheria, 11 cases and 5 deaths; scarlet fever, 40 cases and 6 deaths; typhoid fever, 50 cases and 5 deaths; measles, 2 cases and 1 death. There were also 31 deaths from consumption, 8 from pneumonia, 6 from whooping-cough, 13 from heart disease, 12 from bronchitis, and 10 from marasmus. The total number of deaths was 192, against 186 in the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of August, the whole number of deaths during the month was 409, including 5 from cholera infantum, 6 from cerebro-spinal meningitis, 19 from croup and diphtheria, 2 from diarrhœa, 2 from dysentery, 9 from typhoid fever, 1 from remittent fever, 1 from measles, 1 from whooping-cough, and 1 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 22d:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending September 3d corresponded to an annual rate of 18·9 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Huddersfield, viz., 13·3, and the highest in Preston, viz., 29·1 in a thousand. Small-pox caused 5 deaths in Sheffield.

London.—One thousand three hundred and thirty-nine deaths were registered during the week ending September 3d, including 30 from measles, 39 from scarlet fever, 20 from diphtheria, 42 from whooping-cough, 10 from enteric fever, 132 from diarrhœa and dysentery, and 4 from cholera and choleraic diarrhœa. There were 169 deaths from diseases of the respiratory organs. Different forms of violence caused 50 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 16·6 in a thousand. In greater London 1,666 deaths were registered, corresponding to an annual rate of 16 in a thousand of the population. In the "outer ring" 53 deaths from diarrhœa and 9 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending September 3d in the sixteen principal town districts of Ireland was 27·9 in a thousand of the population. The lowest rate was recorded in Dundalk, viz., 4·4, and the highest in Galway, viz., 40·3 in a thousand.

Dublin.—Two hundred and fifty-four deaths were registered during the week ending September 3d, including 23 from measles, 4 from whooping-cough, 2 from scarlet fever, 1 from typhus, 3 from enteric fever, and 31 from diarrhœa. Diseases of the respiratory organs caused 27 deaths. Three accidental deaths were registered, and in 43 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 37·5 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending September 3d corresponded to an annual rate of 18·5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 12·9, and the highest in Paisley, viz., 26·5 in a thousand. The aggregate number of deaths registered from all causes was 463, including 18 from scarlet fever, 2 from diphtheria, 31 from whooping-cough, 12 from fever, and 39 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending August 27th, corresponded to an annual rate of 25·9 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 9·1, and the highest in Görlitz, viz., 43·5.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,200, corresponded to an annual rate of 21 9 in a thousand. The lowest rate was recorded in the Hague, viz., 16, and the highest in Hertogenbosch, viz., 27·7.

Marseilles.—One thousand and thirty-seven deaths were registered in Marseilles during the month of August, 1887, including 1 from cholera, 71 from enteric fever, 3 from scarlet fever, 28 from diphtheria, 21 from measles, and 197 from diarrhœa and enteritis.

Rome.—The United States consul, in his dispatch under date of August 25th, and in confirmation of his telegram of same date, states that "on the 16th instant a brick-maker in Rome, who had been associating with a family from Catania, Sicily, where cholera is now prevailing, was attacked at 9 A. M. and died at 11 P. M. from a malady, denied at the time, but now admitted to have been Asiatic cholera. From that date to the 24th instant, inclusive, there have been 14 new cases, with 4 deaths, making 5 deaths in all. On the 16th instant several cases of cholera occurred at Tivoli, a town of 7,500 inhabitants, on the slopes of the Sabine Mountains, 18 miles from Rome. The infection is claimed to have been carried there in old rags destined for the paper-mills, Tivoli being the seat of important paper manufactures. From the 16th to the 24th, inclusive, there have been 30 cases altogether at Tivoli. The precise number of deaths there is withheld by the authorities, but the mortality is said to be slightly over 60 per cent. The authorities have displayed the greatest energy in enforcing sanitary measures for the prevention and extermination of the disease, and I am happy to report that at present it appears to have no tendency to spread or increase in Rome. The general health of the city is excellent, the weekly mortality being even slightly below the average at this season."

Palermo.—The United States consul, in his dispatch dated August 29th, reports "126 cases of cholera and 72 deaths from that disease during the seven days ending August 28th. . . . The weather during the week was generally dry and cool compared with that for some time previous, and it is generally believed that while the cholera may remain for some time, it will not become epidemic. . . . The cholera is not confined this year, as it was generally during the last epidemics, to the poor and filthy class, but has invaded the palaces of princes, dukes, and the houses of others who on former occasions were, as a rule, exempt from it. Few cases, however, among the class referred to have proved fatal."

Messina.—The United States consul, in his telegram under date of September 12, 1887, states: "Cholera declared epidemic in Messina by authorities."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	August 27.	2,260,045	946	..	....	7	....	23	....	21
Glasgow	September 3.	545,678	193	..	....	....	....	5	8	....
Calcutta	July 30.	433,219	189	16	....	....	....	....	....	1
Calcutta	August 6.	433,219	180	19	....	....	....	....	....	....
Rome	July 9.	372,779	163	..	....	5	....	2	3	1
Palermo	August 28.	250,000	123	72	....	....	1	2	6	4
Palermo	September 4.	250,000	196	52	....	....	....	4	6	2
Bristol	September 3.	223,695	66	..	....	....	....	....	3	1
Havana	September 8.	208,000	215	..	14	63	....	2	....	....
Genoa	August 27.	179,379	86	..	....	1	3	....	....	5
Genoa	September 3.	179,379	77	..	....	2	....	....	....	....
Leipsic	September 3.	170,000	69	..	....	....	....	2	2	....
Stuttgart	September 3.	125,510	46	..	....	....	....	....	....	1
Toronto	Septemb'r 10.	120,000	33	..	....	....	....	1	....	4
Bremen	August 27.	119,000	39	..	....	....	....	....	....	1
Havre	August 27.	112,074	117	..	....	2	....	30	....	....
Mayence	August 27.	65,701	28	..	...	....	....	....	2	1
Guayaquil	August 25.	30,000	57	..	....	11	....	....	....	....
Gibraltar	August 28.	23,631	15	..	....	....	....	1	....	1

UNITED STATES.

Key West, Fla.—Yellow Fever.—No new cases and only one death from yellow fever during past week.

New York.—The steamship Alesia, from Naples, Italy, arrived on the night of the 22d instant at the New York quarantine with four cases of Asiatic cholera on board. Eight deaths from the same disease occurred on the voyage.

ANSWERS TO CORRESPONDENTS.

No. 48.—The proper expression is Littre's operation (not Littré's). Littre, the surgeon, is to be distinguished from Littré, the physician and lexicographer.

No. 49.—The black-and-white-ligature method of tying off elongated growths is figured and described in Erichsen's "Surgery."

No. 50.—This correspondent asks for a definition of the term "Christian science." We think it an undesirable expression and one hardly susceptible of a satisfactory definition, because it is to a great extent illogical and used by different persons in various senses. It may mean: (1) theology considered as a science; (2) science treated with a view to subjecting it to or harmonizing it with the doctrines of Christianity; (3) science considered as favored in its development by Christianity, as opposed to its lack of growth among other than Christian peoples. There may be other meanings quite as admissible as those we have indicated.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, October 8, 1887.

Original Communications.

ON THE OCCURRENCE OF ULCERS RESULTING FROM SPONTANEOUS GANGRENE OF THE SKIN DURING THE LATER STAGES OF SYPHILIS, AND THEIR RELATION TO SYPHILIS.*

By HERMANN G. KLOTZ, M. D.,

ATTENDING PHYSICIAN TO THE GERMAN HOSPITAL AND DISPENSARY OF NEW YORK.

Whenever we find an ulcer of round or oval shape, sharply cut as if punched out, with somewhat thickened abrupt edges, extending deeply into or through the entire thickness of the skin, with an uneven floor of a dark-green or yellow, dirty color, in a person known to be under the influence of syphilis in its later stages, such an ulcer we generally consider to be a syphilitic one—that is to say, to owe its origin to necrosis of some previously formed specific tissue, most frequently to the breaking down of a gummatous infiltration. An observation made several years ago rendered it more than probable to me that similar ulcers in syphilitic persons might directly result from circumscribed spontaneous gangrene of the skin, due to syphilitic arteritis or endarteritis obliterans.

Among the patients who came under my care when, on July 1, 1879, I took charge of the out-door poor service of the German Society of New York, was Mrs. S., fifty-eight years of age, who, while otherwise in good health and strength and able to attend to her household duties, was, owing to a sore leg, prevented from leaving the house. Beginning directly below the knee, the right leg was considerably enlarged; on its upper two thirds the skin was congested and shining, showing numerous dilated blood-vessels, but was otherwise in good condition. From about the lower third of the leg to the middle of the dorsal aspect of the foot, ulcers of irregular shape, at least one centimetre deep, with sharply cut, indurated edges, occupied nearly the entire circumference of the ankle. The floor of the ulcers showed an uneven surface of a dirty-green color, furnishing a copious watery discharge of very offensive odor. The foot, with the exception of the toes, was enormously enlarged in consequence of swelling of the soft parts, principally of the skin, which was partly smooth and glistening, partly uneven, owing to the formation of numerous aggregated wart-like elevations, and was constantly moist by a watery secretion. At first sight the case seemed to be one of simple chronic ulcers with elephantiasis of the leg; closer examination of the patient, however, made it more than probable that syphilis was at the bottom of the disease.

The patient being almost deaf and not of very bright intellect, it was with some difficulty that the following history was extracted: Her husband is living, and does not show any signs of disease; she has two grown-up sons, both in good health; she herself was strong and healthy until eight years ago, when a tumor formed over the sternum, which, without ever causing much pain, broke and left an extensive ulcer, which finally healed. Soon after similar ulcers developed on the dorsal side of the right forearm, which likewise healed. Only a few weeks later ulcers made their appearance on the back of the right foot, laying bare the bones but gradually filling up again to about the present state, never healing, but attaining by degrees their present size. Extensive white, sharply defined scars, adherent on the sternum, confirmed the patient's report and left little doubt as to the syphilitic character, particularly of that over the sternal region, so favored a location of syphilis.

Under appropriate, mostly specific treatment the swelling of the extremity was gradually reduced, the ulcers themselves presented a cleaner, healthier aspect, now and then good granulations cropped up, the edges had flattened down and softened visibly, when on one of my visits in November I was surprised to find the skin above the ankle affected at several new places, which before had been smooth and but little infiltrated. Being interested in the patient, I had visited her at least once a week, and had watched the progress closely. I felt confident that on the localities of the recent affections no swelling, not even any discoloration, had previously existed. Now there appeared on several places dark-green, oval-shaped sloughs, of about the size of a small hen's egg, surrounded by well-defined borders, which were not more congested or swollen than the rest of the skin; their appearance was accompanied by considerable sharp pains. Gradually the tough, dry eschars began to separate from the surrounding tissues without losing their totality, showing an uneven floor throughout, the lower third of which was of semilunar shape, level and slightly elevated, and, like the rest, coated by a thin layer of yellowish detritus. After a while the ulcers thus formed took on the same appearance as the old ones, making but very slight progress toward improvement, without, however, evincing a tendency to increase in circumference.

In September, 1880, the patient's left leg, which so far had remained intact, began to swell quite rapidly, exhibiting œdema of the soft parts with but slight congestion, when an injudiciously applied liniment caused a dermatitis or artificial eczema. This had subsided when, in October, without any previous induration or circumscribed swelling, similar sloughs as above described were formed on the back of the foot, followed in November by more extensive sloughing of the skin above the left ankle. Soon after, symptoms of blood-poisoning set in, which early in December terminated in death.

Here I had a patient of whose syphilitic taint there could be no doubt, with ulcers closely resembling the typical so-called gummatous ulcer of syphilis; still I felt absolutely certain that in those localities where I had been able to watch their development there had been no symptoms of previous gummatous infiltration. There had been no reddening of the surface, no spontaneous opening of a single aperture nor ulceration at several distinct points, no formation of a small deep ulcer with a core underneath, and final extension until the entire neoplasm was destroyed; no thickened edges and no hyperæmic areola. The blackish-green eschars had appeared at once, uniformly covering the whole area; they were closely adherent at first to the surrounding skin, which itself did not exhibit any changes from its former condition; they gradually separated in their totality—clearly spontaneous gangrene of the skin. In looking for the cause of the gangrene, there was no evidence of trauma, none of the influence of heat or cold or of caustic or irritating chemical action, none of a diathesis like diabetes or of an infectious disease, none of neurotic influences, none of ergotism, or any other cause except obstruction to the circulation. The patient exhibited no signs of endocarditis, no sclerosis of the arteries in other parts where it usually manifests itself; therefore it seemed probable that syphilitic arteritis or endarteritis obliterans had led to the interruption of circulation. This I stated to be my opinion when I presented the patient at a meeting of German physicians of New York in January, 1880. I shall try to show later on that such an assumption seems justified, even without direct anatomical proof. Still, I confess the case was not entirely convincing, especially in regard to the right extremity, which was first affected. Here the whole leg was in such a condition that the obstruction of a blood-vessel could easily take place from various causes; not so, however, on the left leg, which had previously been in a normal state. Certainly my attention was sufficiently aroused to keep me on a sharp lookout for similar cases. Several years, however, passed without furnishing further confirmation of my suspicion. A number of cases came under my observation which, indeed, somewhat resembled that of Mrs. S. In several instances I found the same dark-green sloughs, firmly adherent to their base and their periphery, occurring mostly at the malleolar region; sometimes I could watch the separation of these sloughs and the appearance of the deep, dirty, sharply cut ulcers, surrounded, at least at first, by rather normal skin, in persons known to be, or highly suspected of being, subjects of syphilis. At other times ulcers were seen, under similar conditions and in the same localities, which I felt convinced had been originated by the separation of the same escharotic sloughs. They were generally of oval shape, uneven, very often deeper at one side than at the other, showing a flat semilunar elevation like the round ulcer of the stomach, with hard but sometimes inverted edges, furnishing a thin watery secretion and either exhibiting very little tendency to extend or to heal, or, after a very slow progress of healing, leaving a depressed scar that firmly adhered to the underlying tissue, even when not situated directly over a bone. *Per contra*, gummatous ulcers as a rule show a great tendency to heal under proper treatment with a slightly depressed, movable, and thin parchment-like scar. Naturally, such ulcers at first sight do not differ much from the common chronic ulcer of the leg, especially if left to themselves for some time, but on close observation some peculiarities can indeed be found. I have observed these so regularly in ulcers of the malleolar region that I always consider those as suspicious of syphilis, and but exceptionally has the suspicion failed of confirmation by the absence of a history or other manifestations of syphilis. All such cases, however, which I have seen, unfortunately belonged to dispensary practice, so that I was not able to trace their history and development with sufficient accuracy. One case, however, occurring in private practice, offered a better opportunity.

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* Read before the section in Dermatology and Syphilography of the Ninth International Medical Congress.

Mrs. B., then about fifty years of age, had contracted syphilis in August, 1880. Although rationally treated from the start by her physician, the disease soon developed a very malignant character, partly in consequence of irregularity of treatment owing to the miserable state of the patient's digestion, partly of constant family trouble and excitement. I first saw her about a year after the infection, when she presented superficial ulcerations of the forehead, scars of ulcers on the legs, and gummata of the thighs and arms, and ever since have had her under observation. During these six years Mrs. B. hardly ever has been entirely free from symptoms of syphilis, consisting mostly of ulcers of different parts of the body. In March, 1884, two gummata of the size of a small walnut made their appearance on the lower third of the right leg, breaking down in the usual way and leaving two deep ulcers in an area of considerably infiltrated and congested skin. These ulcers, after various periods of improvement and aggravation, presented about the end of June a clean granulating surface, giving promise of a speedy healing. Early in September I found these ulcers healed with a smooth, thin scar; the leg, which had repeatedly shown different degrees of œdema, was of natural size, but below the malleolus internus two dark-green, firmly adherent sloughs, about the size and shape of peach-stones, were visible, separated by a band of slightly œdematous skin and causing no particular inconvenience. Four weeks later the sloughs had come off, leaving tolerably clean, shallow defects, with sharply cut, uninfiltrated edges. These two ulcers have never entirely healed since; they have not materially increased in size, but have been constantly changing in depth. At one time in January, 1885, the greater part of them had been transformed into a depressed adherent scar, showing several transverse, ridge-like elevations and causing then considerable pain, but since that time the ulcers have increased in depth again and do not undergo much change, neither healing nor extending, although the patient is keeping very quiet and is not obliged to use her legs much.

So far my own experience. In literature not much is to be found. Some of the features of syphilitic ulcers in the chronic state are found described in the hand-books, for instance, by Bumstead and Taylor,* where the chronic swelling resembling elephantiasis Arabum, as in my first case, is especially mentioned, but the original formation of a slough without previous gummatous infiltration I have not found distinctly recognized. Some of the malignant precocious syphilides, described originally by French authors, often rapidly lead to sloughing, but never without a neoplasm being previously visible, differing from my cases by their early appearance. We find the closest resemblance to spontaneous gangrene, however, in a description recently given by Fournier † of what he calls *gangrène primitive*, and to which, he says, Bazin has given the name of tuberculo-gangrenous syphilide. I have tried to find the original of Bazin, which Fournier has not indicated, but have not succeeded, so that I cite the latter author:

"Here the tuberculous infiltration, as soon as it has been formed, takes a livid color in the center and a chocolate color in the peripheral portions, with insensibility of the diseased part; for in reality the formation of an eschar takes place under which the mortified, insensible, sloughy tissues are found, no external occasional cause being recognizable. The mortified parts take on the appearance of gangrene, they become detached, and underneath the syphilitic ulcer is found at last. The symptoms perfectly bear the character of spontaneous primary gangrene."

Here you have an exact description of what I have stated to have observed, only that Bazin insists on the previous formation of a neoplasm that begins to disintegrate as soon as it is formed. It is true, the syphilitic newly formed tissue is perhaps the most short lived, but not so ephemeral as Bazin's description would lead us to believe; only in phagedenism do we meet with so rapid a decay, yet Bazin does not identify his tuberculo-gangrenous syphilide with phagedenism. Has this new formation not been assumed perhaps in conformity with the usual experience that syphilitic ulcers always result from the disintegration of a specific product? And has not the *bona fide* acceptance of such a new formation been the cause that the gangrenous ulcer has never been distinguished from the gummatous one? It seems to me that it is not necessary to resort to such an explanation; the sudden occlusion of a small terminal branch of an artery would more satisfactorily account for the almost instantaneous appearance of such a spontaneous gangrene. It has been satisfactorily shown that in every stage of syphilis its virus exerts its action most constantly on and around the blood-vessels. To changes in the blood-vessels, therefore, particularly to endarteritis obliterans, we must look for an explanation, if we can exclude other external or internal causes of gangrene. Endarteritis in syphilitic persons is an established fact; it does not detract from its importance that this arteritis is really not a specifically syphilitic process; that it owes its origin to syphilis in a great many cases is generally conceded. Such an origin would at the same time explain the inefficacy of antisyphilitic treatment in such cases. The product of endarteritis of the skin will no more be influenced by the same than the nerve or ganglion that was destroyed by cerebral hæmorrhage due to specific endarteritis. The mischief is done by syphilis, but its result ceases to be syphilis. Lang, who, in his lectures on the pathology and treatment of syphilis,* has devoted an entire lecture to the syphilitic affections of the circulatory system, has paid more attention to this question than other authors. He speaks first of arteritis of the larger blood-vessels, leading in some cases to gangrene of entire extremities or portions thereof. Besides an observation of his own, he cites cases of Zeissl and Lomikowsky, to which others of Nicoladoni,† Billroth,‡ Podres # (cited by Bumstead and Taylor), and Cabot and Warren ‖ might be added. The latter report gangrene of the two lower thirds of the right leg, and a gangrenous spot three to four inches in diameter on the inner side of the right thigh. I observed the following case of endarteritis of the popliteal artery or one of its branches, which, like Lang's case, took a favorable course under specific treatment.

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* Bumstead and Taylor, "Venereal Diseases," fifth ed., p. 601.

† "Gaz. d. hôpitaux," 1887, Nos. 37 and 40.

Mr. R., who had contracted syphilis in 1874, consulted me in June, 1882, for a thickening of the epidermis between the toes and on the sole of the left foot. On August 16th this thickened epidermis was found to be detached, covering a superficial, irregularly shaped, serpiginous ulcer, which under local applications and mixed treatment had healed about September 3d. After continued treatment, on October 13th the sole appeared smooth but for several small scaling spots beneath the first phalanges of the toes, but the whole leg, which had been slightly œdematous before, appeared considerably swollen from the knee downward to the toes; the skin was pale, cool to the touch, and not sensitive on pressure except at the lower part of the tibia. Under the use of iodide of sodium within the next days the swelling somewhat subsided; on removal, however, of the scales from the sole, ulcers were again found. On October 19th the treatment was changed to hypodermic injections of a one-per-cent. solution of the bicyanide of mercury, and soon the swelling began to diminish steadily; on the 25th the toes were smaller, and on the 28th, when nine injections had been administered, the ulcers of the sole had healed, the fourth and fifth toes were of normal size, while the second and third and the inner half of the great toe were still enlarged, and on the sole the interdigital spaces between the first, second, and third toes were nearly obliterated by a pad-like protuberance of the soft parts. The dorsal aspect of the foot still showed moderate swelling over the tibio-tarsal joint; on the leg the outlines of the tibia were still concealed by œdema of the soft parts, which on both sides of the bone gave a peculiar elastic sensation; the front aspect of the tibia seemed to be thickened by periosteal new formation, but was not sensitive. On November 13th the swelling had still more subsided, but, owing to my protracted sickness, I did not see the patient again until the following May, when the leg was in perfectly normal condition except slight periosteal thickening of the upper and lower third of the tibia. The extremity at all times had been cool, pale, and almost free from pain; at no time could I detect a thickened, hard, or enlarged blood-vessel, like in Lang's case, still I can not think of another cause for the apparent obstruction of the circulation but of endarteritis obliterans.

To return to Lang, he then proceeds to the consideration of the affections of the medium-sized and small arteries, dwelling particularly on the importance of the endarteritis of the smaller cerebral vessels, which was first studied by Heubner and confirmed by other authors; Birch-Hirschfeld's and Schuetz's observations of endarteritis in hereditary syphilis, and Huber's of calcification of blood-vessels, are then mentioned. I here wish to call your attention to the publication of Galliard* on the occurrence in syphilitic persons of the round ulcer of the stomach, to the similarity of which with the gangrenous ulcers of the skin I have repeatedly alluded, and on the probable connection of the same with endarteritis.

Lang then continues: †

"Naturally, the symptoms which follow an affection of the blood-vessels will vary a good deal according to the nature and extent of the pathological process, to the size of the affected vessel, and in smaller ones according to the dignity of the organ the vascular supply of which is the seat of the affection. Either dilatation or narrowing and obliteration may result; therefore we must expect in due time either an aneurysm or such phenomena as usually follow obliteration of blood-vessels. The constringing and obliterating arteritis will be the less pronounced the smaller the area supplied by the affected vessel, the less important its physiological function, and the more favorable the circumstances for the establishment of a collateral circulation, which in the slow development of the arteritis may be effected with hardly any disturbance. But if terminal or a larger number of blood-vessels are the seat of the affection, an

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* Wiesbaden, 1884–'86.

† "Wiener med. Wochenschrift," 1881, p. 231, No. 8.

‡ "Wiener med. Woch.," 1879, No. 51.

"Centralblatt f. Chirurgie," 1876, No. 33.

‖ "Boston Med. Journal," 1880, ii, No. 7.

* "Archives générales de médecine," janvier 1886. "Syphilis gastrique et ulcère simple de l'estomac."

† *Loc. cit.*, p. 305.

insufficient or entirely interrupted circulation and consequent diminished nutrition and necrobiosis are inevitable. Death of the fœtus in consequence of affections of the umbilical or placental vessels, circumscribed softening of the brain or of the heart, ulcerations of the skin and of the mucous membranes, have to be looked for as the natural consequences of arteritis."

The probability that arteritis may begin in small peripheral vessels and spread to larger trunks has been distinctly insisted upon by Jonathan Hutchinson in a paper published in 1884,[*] which seems to have escaped Lang; its title is "A Case of Syphilis in which the Fingers of One Hand became Cold and Livid—Suspected Arteritis."

The case had been under Hutchinson's observation twenty years ago, but had not been published because no satisfactory conjecture as regards diagnosis could then be offered. "Only in reading over the notes again, it occurred to me," Hutchinson says, "that the cause of the symptoms must have been inflammatory occlusion of the arteries of the hand. Lividity, coldness, and pain were indicative rather of disturbance of nutrition and circulation than of nervous influence. It will be seen," further on Mr. Hutchinson says, "that, although the finger-tips never actually went into gangrene, they were very near it. Since this occurrence I have seen several cases favoring the belief that arteritis may begin in the small peripheral vessels and may travel to large trunks."

I am well aware that it will require the anatomical proof that changes in an artery leading to a gangrenous portion of the skin must actually be shown to exist to establish as an irrefutable fact what I have maintained. This, I confess, I have not been able to do thus far, nor can I hope to find the opportunity myself in the future. To awaken the interest of those who are better situated for the prosecution of such an investigation, I have taken leave to bring my observations before this assembly and to submit to your present and future consideration the following conclusions:

1. Ulcers resembling the so-called gummatous syphilitic ulcer may occasionally result from circumscribed spontaneous gangrene of the skin without the previous formation of a syphilitic neoplasm.
2. Such ulcers may be distinguished by several peculiarities in shape, formation of the floor, and course.
3. They are not at all or but very little affected by antisyphilitic treatment.
4. The spontaneous gangrene in such cases is probably due to endarteritis obliterans.

222 East Nineteenth Street, New York.

A CASE OF
COLPOHYSTERECTOMY FOR CARCINOMA,
WITH REMARKS UPON ANTISEPTIC SURGERY IN PRIVATE PRACTICE.

By GEORGE WACKERHAGEN, M. D.,
BROOKLYN.

The propriety and feasibility of the operation of colpohysterectomy are at the present time so satisfactorily proved to the majority of surgeons in this country and in Europe that it is considered as justifiable as any operative procedure for malignant disease in any part of the body, and when we consider the results which follow non-interference in these cases, it is not surprising that even timid patients are willing to incur the risks of so formidable an operation.

It is not my purpose to write a formal treatise on the subject of hysterectomy, therefore I have not prepared any classified collection of facts, believing that at the present time an attempt to compare total with partial extirpation must necessarily be very unsatisfactory. Those who have endeavored to prove by statistics that a return of the disease takes place as often after entire extirpation as after amputation of the neck, have not taken into account the fact that total extirpation has generally been performed in those cases in which the disease principally involved the body of the uterus, and more or less of the surrounding tissues. With regard to the choice between total extirpation and supravaginal excision, it would seem that the latter method must be almost, if not quite, as difficult as the first, and it has been reported that in some cases the peritoneal cavity has been unintentionally opened.

It appears to me probable that in the future the operation of entire removal of the uterus will find its proper place only in those cases where the cancer is confined to the cervical portion, as we here have some incentive to incur its perils.

The following case of carcinoma uteri came under my observation in consultation with Dr. J. E. Gregory, of Brooklyn, on the 26th of March, 1887:

Mrs. H., thirty-five years of age, a native of the United States, a housewife and the mother of two children, had been suffering from pains and hæmorrhage, with offensive and irritating discharge, since last December. Her general health had become considerably impaired from loss of sleep and appetite, and she was anxious to take the risk of an operation for extirpation of the diseased uterus, although the dangers were fully explained to her by Dr. Gregory as well as by myself. This operation was performed under the most discouraging conditions. The house was located within half a block of a filthy canal, and next door to a large tobacco factory, the machinery of which was in almost constant motion. The following antiseptic measures preceded the operation, which was performed on the 12th of last April: A table large enough to hold dressings and instruments was procured and covered with a clean white sheet, over which were spread carbolized towels. Another table suitable for operating was prepared by covering with blankets; over these rubber sheeting was placed, and over all a white sheet. A five-gallon demijohn, previously washed with a five-per-cent. solution of carbolic acid, was filled with water which had been boiled. The hands and arms of the person making the preparations were then thoroughly scrubbed with soap and water, and finally washed in a solution of bichloride, 1–1,000. Two dozen clean towels were then prepared by soaking in a three-per-cent. solution of carbolic acid, and the vessels to contain sponges, instruments, and dressings washed with a five-per-cent. carbolic-acid solution. The prepared sponges, preserved in carbolic-acid solution, were now washed in plain water (which had been previously boiled) and put in one of the carbolized basins, and covered with a carbolized towel.

The rubber bags for irrigation were filled, one with a solution of sublimate, 1–1,000, another with a solution of 1–2,000, and a third with boro-salicylic solution, and the upper openings stopped with carbolized cotton. The instruments were put into a five-per-cent. solution of carbolic acid, and when ready for the operation were removed from this and immersed in a solution of the strength of 2 per cent. The large silk ligatures, which had been previously boiled for half an hour in a two-per-cent. solution of carbolic acid and kept in alcohol, were now immersed in bichloride solution, 1–1,000, and all sutures, sponges, instruments, and dressings were placed in charge of one assistant. Three basins of bichloride solution, 1–2,000, were placed in convenient localities in order that the hands of operator and assistants should be washed from time to time, and every step of the operation was performed under the strictest antiseptic precautions.

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[*] "Med. Times and Gazette," 1884, i, p. 374.

The assistants were instructed to scrub their hands and arms thoroughly with soap and water, special care being taken to cleanse the finger-nails, and to avoid touching any article not aseptic. The patient having been anæsthetized, the parts adjoining the field of operation were thoroughly scrubbed with soap and water, shaved, and then washed with a solution of bichloride, 1–1,000. The vagina and uterus were also thoroughly irrigated with the same solution.

The uterus was now well drawn down with volsella forceps in each cervical lip. Two stout silk ligatures were then passed, by means of metallic spindles, through the left and right vault of the vaginal wall, for the purpose of including the uterine vessels. An opening into Douglas's *cul-de-sac*, which was made with scissors (blunt), permitted the introduction of a finger into the peritoneal cavity, for the proper placing of the succeeding ligatures; but before these were applied the general peritoneal cavity was protected by an antiseptic sponge, and the mucous membrane and peritonæum covering the distal portion of the stump were sewn together by a continuous catgut suture, this last manœuvre effectually controlling hæmorrhage. With a sound introduced into the bladder, a similar opening was made anteriorly. Here, also, the peritonæum was everted by a tenaculum, and united to the vaginal wall by a continuous suture.

The left index-finger being now carried across and behind the left lateral mass, between the two openings penetrating the peritonæum, this tissue was tied off in five sections; attempting to carry out the same plan on the right side, it was found that the anterior incision had been too short and the finger could not pass so large a mass, to guide the ligating of this right vaginal wall, and consequently the ligation was made from both extremities toward a common point. This accomplished, the whole vaginal vault had been securely ligated and separated from its uterine attachments, and hæmorrhage stopped without the loss of more than an ounce of blood.

The fundus uteri was now turned out and the ovaries were brought down. There remained attached a portion of both broad ligaments on each side. These were tied off with silk, cut, and the uterus and its appendages laid aside. A portion of one broad ligament and a small mass of the posterior stump oozed a little blood and demanded a secondary ligature. The stumps were then stitched to the vaginal wall in several places to prevent their retracting and becoming inaccessible in the event of secondary hæmorrhage. After thorough cleansing internally and externally, and removing the sponges which had very effectually shielded the peritoneal cavity (for their innermost surfaces were scarcely discolored), the vagina was loosely packed with iodoform gauze, and the patient placed in bed. Her pulse was remarkably quiet and natural, and consciousness was restored within a short time; no vomiting and no shock followed the operation. The highest temperature reached was 101° F. on the second night, and this lasted only four hours. On the second day after the operation she asked for beefsteak, and continued to improve from day to day, making a complete and speedy recovery without an untoward symptom, which I attribute especially to the careful antisepsis during and after the operation.

The specimen showed that the disease was entirely confined to the cervical portion of the neck of the uterus. The major portion of the enlargement was in the right half of the anterior lip. The mucous membrane was hyperæmic and thickened. The right ovary was cystic.

My excuse for giving a detailed account of the preparatory antiseptic methods in this case is the growing tendency to believe that, in order to perform capital operations antiseptically, the patient must necessarily be transported to a hospital. A prominent surgeon has made the statement that he considered antiseptic surgery in private practice always a sort of make-shift, and that it was impossible to correctly carry out the principles. He therefore thought that all operations of any importance should be performed in a well-appointed hospital. There are many cases modified by special circumstances which will render such change seriously objectionable to the patient, but, when the convenience of the surgeon is considered, it is certainly more satisfactory to operate with a corps of conscientious assistants in a hospital. I maintain, however, that if one is willing to give the time necessary to a thorough preparation, which can only be done by those who practice surgery almost exclusively, the results may be just as satisfactory, especially when the surroundings are favorable. This has been my experience over and over again after performing capital operations in private practice.

The greatest essential in antiseptic surgery, which was at one time nearly lost sight of in the search for new antiseptics, is habitual cleanliness on the part of the surgeon and his assistants; and those surgeons who have acquired the custom of thorough cleansing of finger-nails and instruments, as well as the person of the patient, even in the most insignificant operations and examinations, are rewarded with the most satisfactory results. He who is indifferent to these principles (for there are many even now who ridicule a rigorous system) comes to the conclusion that the antiseptic treatment of wounds is a delusion; he not only deceives himself, but puts into the hands of those who have not had thorough training in antiseptic surgery an instrument for increasing mortality, and brings modern scientific surgery into disrepute. By a systematic arrangement of appliances, antisepsis has become to me an easy matter, and the results attained are ample reward for more time and trouble in preparation. By its thorough application we can now freely lay open diseased joints, and explore any of the cavities of the body almost with impunity.

It is of the greatest importance that wounds should be treated antiseptically from the very first. Ambulance surgeons should be instructed that the treatment of wounds by this method in cases of emergency is just as necessary as the ligation of a severed artery. By this means the patient is placed in a condition which offers him the best prospect of ultimate recovery. This should be considered at the present day as the essential of "ordinary care and diligence."

In operations involving the peritonæum it has been shown that antiseptics are not so generally necessary, provided absolute cleanliness is observed. The reason given for this is that the absorbing power of this membrane is so great that it is not readily affected by bacilli, unless introduced in great quantities, as they are readily carried into the general circulation where they are surrounded by leucocytes, and in this way prevented from multiplying, their products being finally discharged with other excretions.

In order to be prepared at a moment's notice in cases of emergency, I have arranged in a leather case, which measures fourteen inches long, eight inches wide, and eleven inches high, the following appliances for antiseptic surgery:

1 agate quart measure.
1 2-ounce graduated minim glass.
2 agate pans for instruments.
1 nail-brush.
1 brush for scrubbing the patient.
2 1-gallon fountain syringes.
1 razor.
2 spirit lamps.
2 yards of rubber cloth.
1 rubber apron.
1 3-ounce bottle of carbolic acid.
1 ½-ounce bottle of sublimate solution.
1 can of boro-salicylic acid.
1 2-ounce bottle of iodoformized ether.
1 ½-ounce bottle of solution of hydrochloride of cocaine.
1 3-ounce bottle of chloroform.
1 2-drachm bottle of aromatic spirits of ammonia.
1 1-drachm bottle of nitrite of amyl.
1 jar of prepared sponges.
1 jar of drainage-tubes.
1 jar of prepared silk ligatures.
1 jar of No. 11 silk ligatures.
1 jar of catgut ligatures, prepared.
2 bottles of silk-worm gut.
1 bottle of prepared protective.
1 bottle of bichromatized catgut ligatures.
5 yards of bichloride gauze.
3 yards of iodoform gauze.
1 Gerster's box for iodoform.
1 box for bismuth.
1 large pine-wool cushion.

In conclusion, I would state that it is my custom to thoroughly brush the instruments with soap and hot water, and then to immerse them in a five-per-cent. solution of carbolic acid, when they are thoroughly dried and returned to the case.

I have not referred to the diversity of opinion which prevails as to the form, strength, and length of time to use the antiseptic solutions, the different methods of applying the sutures, and the relative merits of the various dressings.

The differences in carrying out these details are, however, simply different roads, all leading to the same goal, which is the prevention of access and the destruction of septic germs.

The Montreal School of Medicine and Surgery.—The opening address of the course at the École de médecine et de chirurgie was given by Dr. Hingston, on Monday, the 3d inst., in the new operating theatre of the Hôtel Dieu.

DISARTICULATION OF THE RIGHT HALF OF THE LOWER JAW FOR ENCHONDROMA.

By W. D. HAMILTON, M. D.,

COLUMBUS, OHIO.

The patient, a Mrs. E. T., came from Steubenville, Ohio, through the courtesy of Dr. Floyd, Dr. Nelson, and Dr. Frissell. She is twenty-one years old, and her family is free from the taint of malignant disease. In November, 1883, a lump of the size of a large filbert appeared on the outer surface of the body of the jaw, midway between the angle and symphysis. A year later a dusky enlargement, enveloping the lower right third molar, was seen in the mouth. A dentist extracted the tooth, and the bulk of the growth has been attained within the past year. Little pain was felt from first to last, and three profuse oral hæmorrhages occurred. When the writer first saw her she was somewhat exsanguinated. From a point one inch above the right zygoma to within half an inch of the symphysis the face was enlarged. The right cheek and the front and side of the face were only moderately prominent.

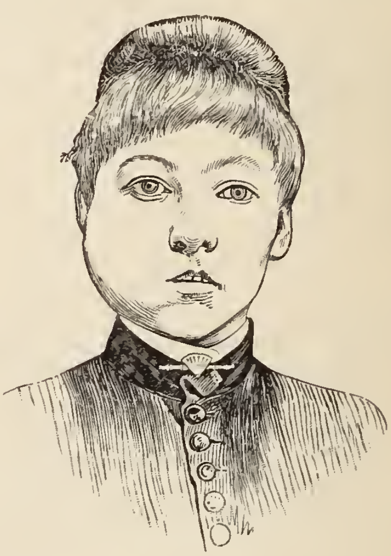

Fig. 1.

Fig. 1 gives an inadequate idea of the extent of the disease. As the growth enlarged it went as far as possible in the direction of least resistance. It nearly filled the mouth, destroying the right floor, and lifting the roof. It then pushed backward toward the pharynx, so that the right tonsil seemed to be a part of it. The most formidable feature of the disease was that which crowded up toward the base of the skull, above the zygoma, and backward into the neck.

Surgeons agree that these operations increase in gravity in proportion to the extent of involvement of the angle and ramus. It is hard to understand how any greater involvement of these parts would have permitted of the successful removal of the jaw.

The mouth was pushed toward the sound side, the right angle being slightly elevated. The closure of the lips required an evident effort. Examination of the oral cavity revealed an irregular mass extending beyond the median line. Most of the teeth on the right side were buried in the diseased jaw, and mastication had become difficult on account of the resistance which the enlarged articulation offered. She was continually annoyed by the foul secretion from a large ulcer in the mouth, caused by application of nitrate of silver. The diagnosis of enchondroma was made, and the operation for its removal performed at Mt. Carmel Hospital, May 10, 1887. The tongue was first transfixed with a ligature, and held by an assistant. The usual incision was made. The facial artery and vein were promptly divided and secured. Following the tumor closely, a careful dissection was made with blunt scissors, until, the cheek having been lifted, the mass was partially exposed. The cavity of the mouth was not entered until later. The bleeding points were ligated as soon as divided. An incisor having been extracted, the bone was easily cut in two with the saw.

Here began the difficult work of the operation, viz., the completion of the deep upper and posterior dissection, and the disarticulation. The external and internal carotid and internal maxillary arteries, Stenson's duct, and the facial nerve were all in close proximity to it. Both the condyloid and coronoid processes were enlarged, particularly the latter, which had extended behind and above the zygoma, lifting it and making it more prominent. Bleeding was very free at every stage of the deep dissection. The division of the jaw allowed it to be lowered, rotated, and everted. Four of the vessels were so deeply situated that all attempts to tie them failed, and as many hæmostatic clamps were left *in situ* at the upper end of the wound. Catgut was employed for the smaller vessels, and about six silk ligatures were used on larger ones. The wound was closed with silk inside, and continuous gut sutures held the skin flaps in neat coaptation, save at the upper angle, where the clamps were dependent. A drain was left in for a few hours, at the lowest point, and absolute cleanliness was observed. A gauze dressing was adapted. Great shock followed the operation, and for a time it seemed doubtful whether the patient would react. The forceps were removed the next day, and a few stitches were introduced. There was but little fever. The silk ligatures excited some swelling and irritation, which ceased after they had come away. For a time sinuses persisted beneath the chin and in front of the ear; but these have entirely healed. The tendency to retraction and lateral displacement was obviated by persistent daily exercise. The lower jaw was locked outside of its opponent for minutes at a time.

She now has no trouble in masticating her food. The cheek is almost natural in appearance. A slight depression exists where the clamps were attached. The cicatrix is gradually becoming less distinct. The photograph from which Fig. 1 was drawn was taken a few days prior to the operation. The two others show the result ten weeks afterward. Fig. 2 indicates very fairly the contour of the face and the dimple-like end of the cicatrix. Fig. 3 shows the line of incision, which was so located that the carotid pulsations may now be seen beneath the vertical part of the scar. There is less distortion of the mouth than formerly. Little if any harm was done to the facial nerve or Stenson's duct.

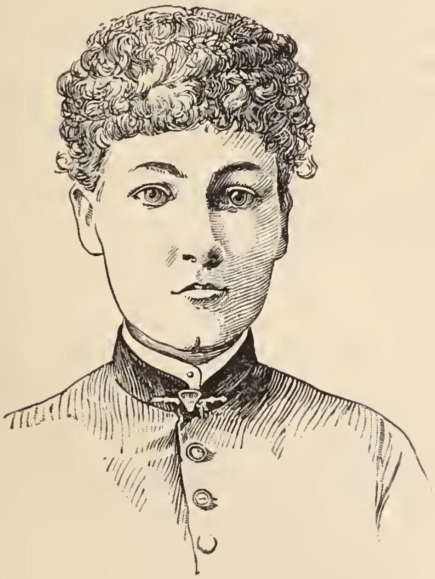

Fig. 2.

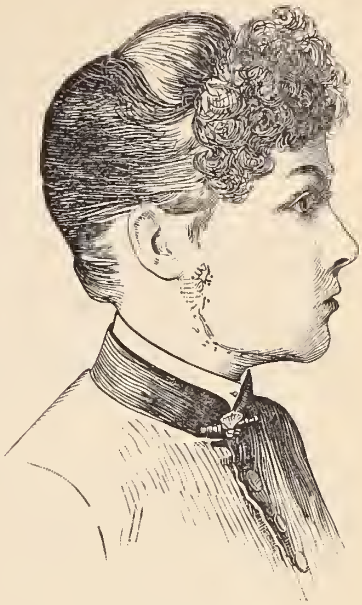

Fig. 3.

In fact, neither the nerve nor the parotid gland could be isolated and recognized. Eighteen artery forceps were constantly employed, and in the aggregate there was very little hæmorrhage, although it is supposed that thirty vessels were tied. Many of them were of considerable size, but were so distorted by the growth that it would be wellnigh impossible to assign their proper anatomical names. The dissection was accomplished almost entirely with strong blunt scissors. The tumor weighed twelve ounces, and two hours were required for its removal. She has gained several pounds in flesh, and is enjoying excellent health.

THE ABORTIVE TREATMENT OF GONORRHŒA.*

By O. T. OSBORNE, M. D.,
NEW HAVEN, CONN.

In considering this subject, the first question that presents itself is, What is meant by an abortion of a gonorrhœa? In relation to gonorrhœa, the abortive treatment seems to have two ends, as understood by the various writers. The first is to shorten or abridge an attack—a true abortion. The second, a so-called "abortion," is to substitute a simple inflammation not tending to chronicity or to ulterior results (if this is the fact) for a true gonorrhœal inflammation which does tend to chronicity and ulterior results—*i. e.*, gleet, stricture, infection, etc.

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* Read before the New Haven Medical Association, September 7, 1887.

The latter, a substitution of a *simple* urethritis for a virulent urethritis, is the most generally accepted object of the abortive treatment, and such a result is called a success.

As the so-called abortive treatment is by injection of caustic fluids, which must necessarily cause an increase of inflammation upon the already inflamed membrane, the treatment itself and the object of the treatment would be absurd were the urethritis the same after as before treatment. Hence *something* must be different; the inflammation before and after the cauterization must differ, and that widely.

The upholders of the abortive treatment maintain that the inflammation before the injection was virulent, while the inflammation after the injection is simple. It follows from the foregoing that the injection must kill or counteract some poison, and that is the whole theory of the abortive treatment. This treatment by cauterization thus supposes a specific urethritis as distinct from simple inflammations of the urethra.

Some one now says: "If I believed in a specific urethritis, I could easily see the object of the caustic injection"—in other words, is gonorrhœa a specific urethritis?

By far the greater number of writers answer the question in the affirmative, and their belief is well set forth by Keyes. He writes: "Gonorrhœa in the male is an intense urethral inflammation, characterized by a period of incubation and by a profuse discharge of pus which possesses virulent qualities." He also says: "Though the virulence of gonorrhœa is disputed by many high authorities who believe it to be a simple inflammation, it is impossible to see why it should not be called virulent. . . . It has a period of incubation, runs a course of varied length, possesses its virulence to the very end, and is in the highest degree contagious. . . . These are the qualities to which syphilis and chancroid owe their claim to virulence, and why should it be denied to gonorrhœa?"

Under the subject of causation, Keyes says: "The cause of true virulent gonorrhœa is single—namely, contact of the affected person with gonorrhœal pus from another person."

Fritsch, in his book on "Gynæcology," speaks of elytritis or kolpitis, and of the *Tripper* (gonorrhœal) infection, showing that he makes a distinction between them. For instance, he says that the pain on passing urine is almost characteristic of gonorrhœa-infection.

Schroeder, in his book on "Diseases of Women," mentions in several places the gonorrhœa-infection as a separate and distinct disease. In his differential diagnosis he says: "The question which has the greatest practical importance is whether the disease is gonorrhœa or a simple kolpitis." I still quote: "From our present knowledge of the gonococcus we can not always with positiveness answer the question. . . . The symptoms characteristic of gonorrhœa, as pointed condylomata, purulent urethritis" (he speaks of the female), "and abscesses of the glands of Bartholin, are generally absent, and there is no characteristic form of the gonorrhœal kolpitis."

Thomas, in his "Diseases of Women," affirms his belief in a one specific cause of gonorrhœa, and believes a gonorrhœal vaginitis to differ from a simple vaginitis. He does not think the presence of an urethral inflammation in the female is absolutely diagnostic of gonorrhœa, although it is strong evidence.

Bryant, in his "Surgery," does not attach himself to either side of the question, but quotes the opinion of Lee and Simon. The latter say that "urethritis may be caused by contact with a gonorrhœal discharge, by menstrual fluid, by leucorrhœal discharges, by chemical irritants, and by some constitutional causes, as gout and rheumatism," but neither Bryant nor his quoted authors say whether in every case the occasioned inflammation is a gonorrhœa, but hedge by calling it a *urethritis.*

Wyeth, in his new book on "Surgery," says "there is a specific form of urethritis which is very contagious, and not as amenable to treatment as are other forms."

Ziegler, in his "Pathology," says "the most important inflammation of the urethra is the gonorrhœal."

With these few quotations from writers who believe gonorrhœa to be specific, we will now give a hearing to a few of those who believe gonorrhœa to be nothing more than a simple urethritis. These writers believe the urethritic inflammations to differ only in degree, and as the inflammation approaches the severer degree it becomes the "so-called" specific gonorrhœa of other writers.

The views of the non-specific believers are well set forth by J. W. White, of the University of Pennsylvania, in his article on gonorrhœa in the "Encyclopædia of Surgery." I have not space to quote the whole of his argument against gonorrhœa as a specific disease, but he sums up as follows:

"GONORRHŒA.	"SPECIFIC DISEASES.
"1. No period of incubation.	"1. Definite period of incubation.
"2. Caused by a variety of agencies, chemical, traumatic, and infectious.	"2. Caused always by the absorption of a definite virus or morbid product.
"3. Predisposes to a second attack.	"3. Protect from a second attack.
"4. Associated only with ordinary processes of inflammation.	"4. Have distinct and almost unvarying peculiarities as regards their pathology.
"5. May be reawakened or reproduced at will and indefinitely.	"5. Run a definite course, and can not be made to return after their completion."

He believes that all inflammations of the urethra differ from each other only in intensity, not in any germ, and that various causes may produce severe symptoms, although he acknowledges that untoward symptoms are most apt to follow direct contagion with a purulent vaginal discharge.

Taking up his first point—that there is no period of incubation—it seems unfair to assume that, because gonorrhœa may show itself any time after the first twenty-four hours after infection, there is no period of incubation. Why can not the period of incubation be short, varying from twenty-four hours to several days, as well as the accepted specific diseases with longer periods of incubation vary by a much greater number of days? The shortness of the period of incubation is easily accounted for when we remember that this poison is applied in concentrated form directly to the part which is most affected in this disease, and in that form which we believe to be ready for action without any change whatever, morphological or other. Keyes says "the incubation period of gonorrhœa is usually from five to eight days," thus expressing his belief in a distinct incubation period. Keyes further says that "when the cause of the urethritis is not gonorrhœa, the evidence of a commencing inflammation appears generally on the second day."

The second point that Dr. White makes—that gonorrhœa is caused by a variety of agents, and a specific disease by but one cause—can not be accepted in argument, as it asserts that a urethritis caused by contact with virulent pus from a vagina is the same as a urethritis caused by a chemical agent, and White himself acknowledges that the former is more likely to develop untoward symptoms.

His third point—that one attack of gonorrhœa predisposes to a second, contrary to the specific diseases—is, perhaps, his strongest argument.

But have we not an analogue in diphtheria, which we all believe to be a contagious disease with a specific cause?

And if Sänger, Oppenheimer, and others are right, that there is a "latent gonorrhœa," then we can easily see how such a gonorrhœa could again become acute by a renewal of the cause. Hence the purulent discharges after the first attack would be only a reappearance of the disease, as we have in syphilis.

His fourth point—that "the pathological manifestations of gonorrhœa are those of an ordinary inflammation, while the specific inflammations have distinct and almost unvarying peculiarities as regards their pathology"—can be easily answered if we believe that the gonococcus is the cause of gonorrhœa.

If we do not believe in the gonococcus, then the marked virulence of the urethritis caused by contact with gonorrhœal pus, and the fact that a few drops of gonorrhœal pus placed in a healthy urethra or into a healthy eye will positively set up an inflammation, while equal quantities of pus from other sources will not cause inflammation in these parts, certainly shows a distinct pathology. Were all inflammations of the urethra the same, one drop of pus, whether from a case caused by a chemical irritant or from a case caused by contact with a gonorrhœal elytritis, would have the same power of infection. This is not the fact; hence the drop of gonorrhœal pus must contain some specific element, although we may not have discovered it.

Also, in the female, the great tendency of gonorrhœa to set up severe uterine and tubal inflammation, while a leucorrhœa may go on for years without causing severe symptoms, certainly points to a pathology other than that of a simple inflammation.

His sixth point—that "gonorrhœa, contrary to specific diseases, can be reawakened and reproduced at will and indefinitely"—is another strong argument unless we believe in the "latent gonorrhœa." If there is a "latent gonorrhœa," we could easily understand how it could be reawakened, and we have a perfect analogue in the exacerbations of a sleeping syphilis.

The discussion for and against a "latent gonorrhœa" would take more space than the scope of this paper will allow, so I pass it by with only this brief mention.

Otis agrees with Van Buren and Keyes that genuine gonorrhœa can not be recovered from in less than four weeks. "If a urethritis is aborted, it was not gonorrhœa." But he still calls gonorrhœa a *simple* inflammation and denies its specific character. Now *simple* inflammations *can* be aborted, and it would seem that, like other simple inflammations, gonorrhœa might be aborted.

Thus Otis appears to contradict himself.

Sturgis also does not believe in a special virus. He says "gonorrhœa in the male may be produced by gonorrhœal, leucorrhœal, and menstrual discharges." Assuming, for the sake of argument, that the urethritis set up by any of these three causes is one and the same disease, he must acknowledge that a gonorrhœal vaginal discharge is by far the most frequent cause of urethritis in the male, while he must also acknowledge that leucorrhœa is very frequent among all women, and especially married women (Thomas says "no woman goes through life without a leucorrhœa at some time"). Hence, theoretically, leucorrhœa should be the most common cause of gonorrhœa. It might be said that the husband of a woman with a leucorrhœal discharge becomes, so to speak, acclimated to that particular discharge. Then if leucorrhœa produces gonorrhœa, such a husband, having had one attack of gonorrhœa, becomes *protected*, and we have an answer for one of Dr. White's arguments against a specific gonorrhœa.

Again, can it be denied that a man with gonorrhœa can produce a gonorrhœa in a woman who already has a leucorrhœal discharge?

Now what is vaginal leucorrhœa?

According to Thomas, "it is a discharge of mucus or muco-pus as a symptom of inflammation of the vagina."

Then if gonorrhœa is a simple inflammation, in the female it is a simple elytritis, and the discharge must necessarily be leucorrhœa. Then why speak of gonorrhœa as being caused by a "gonorrhœal" and by a "leucorrhœal" discharge? Why not speak of gonorrhœa in the male, and of leucorrhœa in the female?

And yet every writer who does not believe in the specific nature of gonorrhœa will describe leucorrhœa and gonorrhœa as two separate and distinct diseases in the female.

It might be suggested that gonorrhœa was the name given to the acute form of elytritis, and leucorrhœa to the chronic form; in other words, that they were different stages of the same disease. Then the whole argument is gone, for they are trying to prove to us that gonorrhœa in the male is *not* specific, as it is caused by two different discharges—namely, by the *gonorrhœal* and by the *leucorrhœal*.

Once more, if there is no such thing as a specific elytritis, then the elytritis caused by infection with gonorrhœal pus, which will give the gonorrhœal vaginal discharge, must be the same as the elytritis caused by endometritis, which will give the leucorrhœal vaginal discharge, which again overthrows the argument.

It would thus seem, gentlemen, that by far the most tenable ground is that occupied by the greatest number of learned writers, and that occupied by the majority of the profession—namely, that gonorrhœa is a specific and distinct disease.

Now, a specific disease must have a special cause, and for that cause, in this day of germ theories, we look to the bacteriologist. What has he done for us?

In 1879 Neisser discovered a coccus in gonorrhœal pus which he believed to be peculiar to that disease and its specific cause. He named this microbe the gonococcus. Neisser, Haab, Martin, Bumm, Kroner, Oppenheimer, and others have since, by extensive and multiple experiments, proved the gonococcus to be a distinct variety of coccus, and alone able to reproduce true gonorrhœa. I will not go into the experiments of these observers, but suffice it to say that the gonococcus was found to meet the three demands of Koch to prove that a given infective disease is caused by a given micro-organism.

These demands are: 1. "That one and the same spore be always found in a given disease." 2. "That the same be easily recognized morphologically, or by its chemical relation as well as by its behavior to coloring materials." 3. "That the disease may be artificially produced in a healthy individual by inoculation with pure cultivations of spores."

Gonococci are found in the ophthalmic blenorrhœa of new-born infants whenever inoculation with gonorrhœal virus has taken place, although a purulent catarrh of the eyes may occur in the new-born with no gonococci.

Kroner stated that in ninety-two cases of ophthalmia neonatorum the gonococci were found in sixty-three. Twenty-one mothers of the children with gonococci, and eighteen mothers of the children free from the gonococci, were examined as to their vaginal secretions, and in every case the gonococci were found in the twenty-one, and never in the eighteen.

In September, 1885, Dr. Hall, in the New York Clinical Society, reported a case of acute gonorrhœa of five weeks' standing, with inflammation of the knee joint. He aspirated the joint, examined the fluid, and found gonococci.

Westermark, of Stockholm, reported a case of salpingitis in which, after operation, examination of the pus in the tube positively discovered gonococci. I will, however, not weary you by multiplying these instances.

Many observers and experimenters have tried to disprove the doctrine of the gonococcus as the cause of gonorrhœa, but their arguments and results are all weaker than those of the positive side.

Friedländer thus describes the gonococcus: "The micrococci of gonorrhœa build small mounds, and these mounds or heaps are always arranged in a characteristic manner. . . . They lie often upon the surface and in the protoplasm of the pus-corpuscles." He says "they can not always be discovered in the discharge, especially when a large number of other micrococci are present."

The manner in which the gonococci give rise to specific urethritis is ably described by Dr. Bockhart as follows: "The gonococci first land upon the pavement epithelium of the fossa navicularis, where they thrive and increase. They then rapidly work downward between the epithelial cells toward the papillæ of the mucous membrane, loosening the epithelial layer on their way through it, destroying some of its cells, and causing many of them to be shed, thus producing little apertures.

"Within eighteen hours, at most, the gonococci reach the papillary portion of the mucous membrane. During this process the secretion from the urethra is clear and contains epithelium and a few gonococci, either isolated or seated upon an epithelial cell. But now the gonococci, by their presence upon the papillary portion of the mucous membrane, induce a reaction on the part of the blood-vessels; white blood-corpuscles escape from them in which the gonococci increase and form little round heaps.

"The urethral discharge is now sero-purulent and consists of pus-cells, epithelium, and gonococci. Now the gonococci enter the lymph-spaces of the mucous membrane and press into its deeper layers, increasing rapidly. With this there is a great increase in pus-cells, and the discharge is composed chiefly of them, the gonococci being few and only in the pus-cells in the form of heaps.

"The constitution of the mucous membrane is slowly very much altered by the migration of the pus-cells. These take up more and more of the gonococci and carry them out in the secretion, which then consists only of pus-cells with heaps of gonococci, the loss of epithelium having ceased." Such is the description of the development of gonorrhœa by Bockhart. Now, if we are convinced that gonorrhœa is a specific disease, and especially if we accept the gonococcus, we can plainly see the object of an abortive treatment—a treatment that will kill the germ even at the risk of setting up an inflammation by our germicide.

Before discussing the methods of aborting, it might be well to ask how shall we know that a gonorrhœa has been aborted?

If we stop it in a few days, have we aborted it, or was it a very mild case of gonorrhœa?

If it continues, have we succeeded by substituting a healthy inflammation for an unhealthy one, as Bumstead and Taylor maintain the abortive treatment does, or is it an unsuccessful abortion and the inflammation a continued gonorrhœa? It seems to me that unless we believe in the gonococcus we can not decide.

Believing in the gonococcus, we have gonorrhœa until the gonococcus disappears from the pus, and all abortive treatment is unsuccessful which does not bring about that result.

As to the various abortive treatments and the belief in the utility of the same, I will quote from various authors.

Dr. Bockhart, who has so ably described the action of the gonococcus, does not believe in abortive treatment, as at the time the patient presents himself the infection has gone too far. Welander, on the other hand, a firm believer in the gonococcus, regards abortive treatment, if the patient is seen during the first few days, as the proper treatment.

His method is to first cleanse the anterior portion of the urethra, chiefly the fossa navicularis, with absorbent cotton, thus removing a quantity of epithelial cells which will show many gonococci in or upon them, and then to cauterize with a solution of nitrate of silver.

Bumstead and Taylor, who believe gonorrhœa to be a simple inflammation, highly recommend the abortive treatment in the first days of the disease. It is difficult to see, if gonorrhœa is a simple inflammation, what it is they propose to abort. If there is nothing to neutralize, counteract, or kill, why add a simple inflammation to one already existing, the inflammation being acute?

Who would recommend a nitrate-of-silver gargle or spray to an acute pharyngitis? Their abortive treatment, however, will do but little harm to the already existing simple (?) inflammation. Instead of a strong solution of nitrate of silver used once, they recommend a weak solution used several times. The strength of the solution recommended is one part of nitrate of silver to three thousand parts of water. How this solution could be much more than a cleansing solution I can not see.

Sturgis, who does not believe gonorrhœa to be a specific inflammation, rejects the abortive treatment with nitrate of silver as liable to cause untoward results, and as also unsuccessful in limiting the disease.

He believes dieting, rest, aconite, perhaps, and lead-and-opium wash to the parts to be the best treatment of the first stage.

Keyes, who, it will be remembered, believes gonorrhœa to be specific, says "the abortive treatment with corrosive injections is dangerous, and absolutely uncertain in its results."

"Those cases which get well," I quote, "are cases of urethritis, which, doubtless, would have recovered promptly under mild treatment, and, when it does not cure, it greatly increases the intensity of the inflammation, and leads with much certainty to stricture ultimately, and immediately, in many cases, to complications of the bladder and testicle."

J. W. White, the writer of the article on gonorrhœa in the "Encyclopædia of Surgery," is very consistent. Not believing in a specific germ, he does not believe in an abortive treatment.

He orders rest, elevation of testicles, skimmed-milk diet, or approximate that diet as near as possible, and stoppage of all alcoholic and malt drinks, but does not interdict tobacco.

He also gives an alkaline prescription, to be taken after meals, at which time he finds the alkalies to be most effective, and also orders large quantities of water drunk.

Otis, as before stated, believes genuine gonorrhœa can not be aborted, but must run its course of about four weeks. He says if it is aborted it was not gonorrhœa, but he fails to say what it then was.

Thus, although he believes gonorrhœa to be a simple inflammation, he tacitly acknowledges that all simple inflammations of the urethra are not gonorrhœa.

Wyeth, who believes gonorrhœa to be a specific inflammation, disapproves of all corrosive injections, and, in fact, all injections of any kind, during the first stage.

Currier, in his various articles on "Gonorrhœa in the Female," at first recommended strong corrosive injections of nitrate of silver—as strong as 60 per cent.—but in an article in the "New York Medical Journal" for October 24, 1885, he disapproves of strong injections altogether, and recommends an injection of bismuth and glycerin (ʒ j to ℥ j). He believes in the gonococcus, and says this bismuth injection does not kill the germs, but starves them. He afterward states that the glycerin and bismuth so deplete the mucous membrane that the germs have nothing on which to feed, and thus starve. This is certainly difficult to believe, although the treatment may be good.

Bryant says nothing of an abortive treatment for gonorrhœa.

Schroeder believes gonorrhœa to be specific, and recommends, in the female, an injection of a five-per-cent. solution of carbolic acid as a preliminary treatment.

Fritsch says nothing of an abortive treatment, but recommends antiseptic injections for gonorrhœa, and prefers carbolic acid.

Dr. Charles T. Mitchel, of Philadelphia, in a pamphlet on gonorrhœa, disapproves of the injection of the corrosive solution recommended to abort gonorrhœa, as tending to convert a mild attack into a severe one, and to cause stricture. But he does recommend the use of bougies of some germicide, to either neutralize or modify the action of the specific virus.

Dr. Grandin, a writer in the "New York Medical Journal," believes corrosive sublimate, creasote, and nitrate of silver to be alone deadly to the virus of gonorrhœa.

In the female, after cleansing the parts thoroughly, he injects a solution of nitrate of silver (ʒ ss. to ℥ j—about a six-per-cent. solution) into the vagina, and a solution (gr. x to ℥ j—about a two-per-cent. solution) into the urethra He then "has a simple inflammation easy of treatment."

Munnich, of Amsterdam, recommends injections of resorcin (three-per-cent. solution) as abortive for gonorrhœa. He has the patient inject it every two hours during the day, and twice during the night. He finds under this treatment the symptoms speedily to ameliorate, and the discharge to become very slight by the seventh day, and almost invariably to have ceased by the fourteenth day. After the first day he reduces the frequency of the injections.

Professor Goll, of Zurich, has treated a number of cases of gonorrhœa with a two- to two-and-a-half-per-cent. solution of sulphate of thalline with very great success. It prevents all bad symptoms, and quickly changes the character of the discharge from a purulent to a milky or a sero-mucous discharge.

Dr. Trusewicz, of St. Petersburg, has observed that amykos, an antiseptic, consisting of boric acid and thymol, will shorten gonorrhœa. At first he uses a weak injection, and after two or three days he increases the strength. By this treatment he professes to cure ordinary cases in a week.

Castellan, a Frenchman, has found an alkaline injection—namely, a one-per-cent. solution of sodium bicarbonate in water—very useful in shortening gonorrhœa and preventing disagreeable symptoms. He injects this solution three or four times a day. He finds the pus of acute gonorrhœa acid; hence he injects the above solution till the reaction is alkaline, which generally occurs in two or three days; then the gonorrhœa rapidly disappears.

Another French writer, Dr. Martineau, says that the gonorrhœal discharge from the vagina is always acid (as shown by litmus-paper), while the simple form of vaginal discharge is alkaline.

The suggestions of various writers as to the proper treatment of the first stage of acute gonorrhœa might be multiplied indefinitely, but, with this brief notice of a few authors and writers on this subject, I hope to have touched upon the varied opinions of the profession.

I have purposely not confined myself to the specialists on this subject, but have referred to a few only of the venereal surgeons, to a few general surgeons, to a few gynæcologists, and to a few pathologists, hoping thus to get a more general view of the subject as it will interest us general practitioners.

In closing this paper I will give a *résumé* of the subject as I believe it now stands:

1. Gonorrhœa is a specific inflammation.
2. It is, in all probability, caused by a special microbe.
3. The gonococcus of Neisser is, almost beyond controversy, the specific cause of gonorrhœa.
4. The abortive treatment of gonorrhœa with corrosive injections is unjustifiable and unsatisfactory.
5. The only abortive treatment should be with weak antiseptic injections, combined with the constitutional treatment.

Sclerosis of the Heart.—According to Huchard, the causes of sclerosis of the arteries of the heart may be divided into three groups: the first being due to intoxications, or rather toxæmia, by alcohol, tobacco, malaria, and lead; the second group is formed of causes such as the diathetic states of arthritism, gout, and syphilis; while the last group, and one to which exception may with at least some reason be taken, is composed of causes such as physical, moral, and intellectual overpressure. The sclerosed heart may be either hypertrophied or dilated, but most often dilatation and hypertrophy are associated. Modifications of the form and size of the heart are the direct consequences of the initial vascular lesion, and not of the ensuing sclerosis. The common lesion is obliterating arteritis of the small coronary vessels, and it takes place slowly, so as to allow of time for compensating hypertrophy and for sclerotic lesions to develop. If the arteritis is of more rapid progress, dilatation of the heart and alterations of the heart-muscle fibers are the preponderant changes. Three histological varieties of cardiac sclerosis may be differentiated, following Weber: (1) perivascular sclerosis due to the propagation of inflammation; (2) the dystrophic sclerosis from regional ischæmia; and (3) mixed sclerosis. The changes in the muscle-fibers are but imperfectly known. Two of the principal alterations are simple atrophy and the vitreous degeneration of Zenker. Nosographically, cardiac sclerosis is one of the anatomical expressions of arteriosclerosis of the heart. Weber regards arterio-sclerosis as the outcome of certain ætiological conditions, among which must be ranged heredity, certain hygienic habits, and various chronic intoxications.—*Lancet.*

The Georgetown Medical College.—The introductory lecture to the thirty-ninth session was delivered on Monday, the 3d instant, by Dr. Joseph Taber Johnson, whose subject was "Recent Advances in Abdominal Surgery."

The Baltimore Medical College.—The opening address of the autumn and winter session was delivered on Monday last, by Dr. C. W. Chancellor, on the subject of "Recent Theories in Sanitation."

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LAPARO-COLOTOMY AND LUMBAR COLOTOMY.

Although there can now be little doubt as to the relative merits of these two operations, a recent article on the subject, by Dr. Charles B. Ball, of Dublin, published in the "Dublin Journal of Medical Science," contains a number of noteworthy suggestions, not the least important of which is included in the opening sentence—that recent advances in rectal surgery have limited the cases in which colotomy is indicated, and that, where it is possible to perform them, ablation of the rectum, linear proctotomy, and resection of the colon are all to be preferred to the establishment of an artificial anus. While perhaps an exception might be taken as regards resection of the colon, the main point of the remark is certainly correct, and colotomy will be far less frequently seen in the future than it has been in the past. It is in itself a disgusting means of interfering with the natural course of a disease which is generally fatal in the end, and one loathsome alike to the patient and the surgeon, unless the latter looks more closely to the immediate results of a successful operation than to the ultimate good of the former. It is a brilliant thing to be able to arrest fatal disease absolutely for a few months, but it may be better to stand aside, unless some positive and definite advantage is to be gained other than the mere prolongation of useless life at such a cost.

There are cases, however, in which the formation of an artificial anus is decidedly indicated, and in which the surgeon would be criminal not to offer this last alternative to the sufferer; and in such cases he must decide between the operation in the loin and that in the groin. We know of but one supposed advantage of the former over the latter, the possibility of avoiding a wound of the peritonæum; and this advantage is much more theoretical than actual. In a few cases, of course, it is practicable to open the descending colon behind without opening the peritonæum; but, considering the depth of the wound and the consequent disadvantage at which the operator is placed, and considering also the frequency of a mesocolon in this part, we may ask of any practical colotomist what this anatomical possibility amounts to in actual practice. The lumbar operation was devised to avoid wounding the peritonæum at a time when a wound of that structure was considered fatal, and it has survived the belief and fear to which it owed its conception. The best way to reach the bowel is through the abdominal wall, other things being equal; and, thanks to modern surgery, other things are now equal. Had peritoneal surgery been as far advanced in Amussat's time as it is now, lumbar colotomy would never have been heard of.

The advantages of the inguinal operation lie, first, in the ease of its performance and the consequent certainty of the result. The situation of the wound is such as to enable the patient to care for himself much better than when the opening is behind. In cases of uncertainty as to the seat of the disease, or even of mistake in diagnosis, the anterior incision allows of exploration of the entire abdomen; and, should excision of a part of the bowel or closure of the lower end be determined upon, either procedure can be carried out better in this situation. Finally, as pointed out by Dr. Ball, a shorter extent of bowel intervenes between the opening and the seat of the disease for which it is usually made, and, the abdominal wall being thinner in front, the wound is less extensive and the greater fineness of the skin allows of a much more accurate coaptation of the integument and the mucous membrane. The difficulty of performing the lumbar operation involves a certain element of risk, not so much to life as to the accomplishment of the end in view. With modern antiseptic precautions, the mere fact of opening or avoiding the peritonæum need hardly be considered in deciding between the two operations.

THE SIGNIFICANCE OF LEFT-HANDEDNESS.

An editorial writer in "La Normandie médicale" has taken the trouble to summarize and compare certain observations on this subject, and he thinks that it is not wholly elucidated by M. Galippe's generalization that we are right-handed by atavism and left-handed by morbid heredity. He implies also that it is not altogether to faulty education that left-handedness is to be attributed, and suggests that it might be useful to seek for a solution of the problem in comparative anatomy and pathology, by endeavoring to ascertain if the lower animals do not show a predominance of one side over the other. The writer first considers M. Debierre's investigations by comparative measurements of the bones of the right and left limbs in infants. These measurements show a slight excess in the average length of the left os brachii, but, curiously enough, in that of the right radius and femur; and there are persons, it seems, who, being right-handed, have the left lower limb somewhat more developed than the right, and those also who, being left-handed, have the right lower limb predominating over the left. But all these differences in the length of the bones are inconsiderable, and, in M. Debierre's opinion, they are not original, but created by habit, so that our primordial type was that of ambidexterity, and it is only by education that we become right-handed or left-handed.

M. Galippe considers left-handed persons as in a certain sense degenerate, and he seems to regard left-handedness, as well as squinting, mother's marks, supplementary fingers, hare-lip, prognathism, and other like blemishes, as implying a disposition to physical, moral, or intellectual deficiency. It is stated that many epileptics are left-handed, and figures are given showing that 4·13 per cent. of insane men and 4·27 per cent. of insane women are left-handed, but these percentages do not seem to vary strikingly from those found among healthy persons. Among criminals, however, according to Marro, the proportion of the left-handed is much greater—13·9 per cent. in men and 22·7 per cent. in women. Anomalies in general are said to affect the left half of the body more frequently than the right, and the experience of dentists is brought forward by M. Galippe as showing a very common exemplification of the fact, dental caries being declared to be oftener met with on the left side than on the right, as well as the non-appearance of the wisdom teeth or the occurrence of derangement of the health at the time of their appearance. Moreover, it is alleged that the teeth of the right side are generally somewhat larger and harder than those of the left side. On the other hand, irregularity of the canines is set down as more common on the right side. The left half of the jaw itself is said to be somewhat less developed than its fellow as a rule.

It is evident from the facts brought out in these various inquiries that the question of the cause or causes of left-handedness is not a simple one, and it may be said, in particular, that the occasional coincidence of a predominant right arm and a more highly developed left leg, and *vice versa*, seems to vitiate the theory that refers the preponderance of one side to an encephalic inequality.

MINOR PARAGRAPHS.

PROFESSIONAL SECRECY.

The sacredness of the confidential relations between physicians and their patients has lately received fresh recognition in Belgium. According to a brief account given of the affair in the "Union médicale," a physician was prosecuted and convicted, and the conviction was affirmed at a second trial, for having refused to reveal the mother's name in a birth certificate. What we interpret as a recognition of the inviolability of the confidence given by patients to their medical advisers is the reply made by the Minister of Justice to a question raised by the occurrence in the Chamber of Deputies, to the effect that there was no legal means of compelling a physician to betray his patients' secrets. It is said that the Belgian Society of Medicine has determined to make a thorough study of the whole question, which is one that is continually coming up in one shape or another. It is easy to see how private grief and humiliation may be greatly intensified by the public record of the parentage of an illegitimate child, and we think it is very much to be questioned if the assumed advantage to the community is great enough to warrant the infliction of such an amount of pain.

A NEW GYNÆCOLOGICAL JOURNAL.

The first number of the "Annals of Gynæcology, a Monthly Review of Gynæcology, Obstetrics, and Abdominal Surgery," comes to us from Boston, where it is edited by Dr. E. W. Cushing. It contains four original communications, an editorial article, a book review, a society report, and a hospital report, together with a number of reproductions of photographs of gross and microscopic objects, for the most part very clear and intelligible.

HYPNOTISM AS AN ANÆSTHETIC.

We lately recounted a case in which a parturient woman was anæsthetized by means of hypnotism. Now the "Union médicale" states that a Roman surgeon, Dr. Pio Masetti, of the San Giacomo Hospital, amputated the cervix uteri on the 29th of July, the patient having been rendered insensible in the same way. It is said that she showed not the slightest sign of pain during the operation. It would be rash to infer from this occurrence that hypnotism could be made generally available as a surgical anæsthetic, for, apart from several other considerations that ought to be taken into account, operations on the neck of the uterus are frequently performed without the use of any anæsthetic, so slight is its sensibility to pain in many instances.

DR. RICHARD QUAIN.

We learn from our English contemporaries that it was not Dr. Richard Quain, of London, the distinguished editor of the "Dictionary of Medicine," who recently died, but his cousin, Mr. Richard Quain, the well-known anatomist. The error of confounding the two men was hardly to be guarded against on this side of the Atlantic, especially as it was so generally fallen into in London that, as the "British Medical Journal" states, numerous letters of condolence have been received by Dr. Quain's wife, and several of his acquaintances have been startled to see her husband walking about in full health and spirits. This state of things must be our apology for having announced his death in a recent issue. We trust it will be long before such an announcement is warranted.

VEGETARIANISM FOR THE IRISH.

At the recent meeting of the British Medical Association, Dr. M. A. Boyd, of Dublin, read a paper on "Modern Diet and its Effects on Health" before the Section in Public Medicine. From the abstract that is published in the association's "Journal," it appears that the author said that "some check must be put on the importation of American and Australian live and dead meat, if the State desired a healthy population." Some of Dr. Boyd's remarks seem to indicate his dread of the effects of meat in general, but why he should particularly fear those of American and Australian meat is not very clear. The general impression is that the people of Ireland are in no imminent danger of the consequences of eating too much meat of any kind, and it is presumably among the Irish that Dr. Boyd has observed whatever facts may underlie his statements.

THE "AMERICAN JOURNAL OF THE MEDICAL SCIENCES."

This venerable and always creditable journal, it is announced, is to be made a monthly with the beginning of the new year. Thus the last of the great medical quarterlies will undergo a transformation of no little significance. It will be the final confirmation of the apparent tendency to allow quarterly journals of general medicine to become extinct. In saying this we do not overlook the vigorous life of the "Revue des sciences médicales," but that publication is hardly comparable with those that chiefly contain original communications. Many an old reader of the "American Journal of the Medical Sciences" may feel a sentimental regret at the change, but its utility seems to us beyond question.

A JOURNAL OF FOOD ADULTERATION.

We have received the first number of the "Revue internationale scientifique et populaire des falsifications des denrées alimentaires," published in Amsterdam, and edited by Dr. P. F. van Hamel Roos, of that city, aided by a staff of collaborators and correspondents representing the leading countries of the world, including, for America, Dr. Willis G. Tucker, of the Albany Medical College. The greater portion of the contents is printed in French, but the excellent plan seems to be followed of presenting quoted matter in the original language side by side with a translation into French.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 4, 1887:

DISEASES.	Week ending Sept. 27.		Week ending Oct. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	43	14	48	10
Scarlet fever	39	6	56	15
Cerebro-spinal meningitis	5	3	3	3
Measles	11	2	6	2
Diphtheria	106	41	95	37
Small-pox	3	0	0	1

The Health of Boston.—The following numbers of cases and deaths from infectious diseases were reported to the Board of Health during the week ending Saturday, October 1st: Diphtheria, 8 cases and 8 deaths; scarlet fever, 45 cases and 7 deaths; typhoid fever, 42 cases and 9 deaths. There were also 25 deaths from consumption, 11 from pneumonia, 4 from whooping-cough, 8 from heart disease, 5 from bronchitis, and 6 from marasmus. The total number of deaths was 176, against 181 in the corresponding week last year.

Professor von Nussbaum, according to the "Deutsche Medizinal-Zeitung," was given an ovation by his pupils on the 2d of August, on the occasion of the performance of his five-hundredth laparotomy.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 25, 1887, to October 1, 1887:*

Smith, A. K., Lieutenant-Colonel and Surgeon. Granted leave of absence for one month and fourteen days, to take effect upon his being relieved from duty at U. S. Military Academy. S. O. 223, A. G. O., September 24, 1887.

Johnson, R. W., Captain and Assistant Surgeon. Granted leave of absence for twenty-one days, to be taken advantage of so that he will return to his station at latest by the middle of October, 1887. S. O. 204, Division of the Atlantic, September 23, 1887.

Dietz, W. D., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 223, A. G. O., September 24, 1887.

Knudler, William L., First Lieutenant and Assistant Surgeon. Ordered to accompany Light Battery F, Fourth Artillery, from Fort Snelling, Minn., to the International Military Encampment at Chicago, Ill. S. O. 97, Department of Dakota, September 20, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for two weeks ending October 1, 1887:*

Harvey, H. P., Surgeon. Ordered to the Mohican.

Cooke, G. A., Surgeon. Detached from the Mohican and ordered home.

Cleborne, C. J., Medical Inspector. Promoted to Medical Director. September 18, 1887.

Walton, T. C., Surgeon. Promoted to Medical Inspector. September 18, 1887.

Boyd, J. C., Passed Assistant Surgeon. Promoted to Surgeon. September 18, 1887.

Tryon, J. R., Surgeon. Ordered to Marine Rendezvous, N. Y. October 1, 1887.

Field, J. G., Assistant Surgeon. Detached from Marine Rendezvous, N. Y., and ordered to the Vermont.

Means, V. C. B., Assistant Surgeon. Ordered for examination preliminary to promotion.

Deer, E. Z., Passed Assistant Surgeon. Detached from navy-yard, New York, and ordered to the Nipsic.

Ashbridge, Richard, Passed Assistant Surgeon. Detached from Naval Academy, Annapolis, Md., and to wait orders.

Russell, A. H., Passed Assistant Surgeon. Ordered to the Naval Academy, Annapolis, Md.

Herndon, C. G., Passed Assistant Surgeon. Detached from Naval Dispensary, Washington, D. C., and ordered to the Enterprise.

Arthur, George, Passed Assistant Surgeon. Detached from the Museum of Hygiene, Washington, D. C., and ordered to the Naval Dispensary.

Griffiths, S. H., Passed Assistant Surgeon. Ordered to the Museum of Hygiene, Washington, D. C.

Spear, J. C., Medical Inspector. Leave of absence granted until July 1, 1888, with permission to leave the United States.

Society Meetings for the Coming Week:

Monday, *October 10th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society.

Tuesday, *October 11th:* New York Medical Union (private); Medical Societies of the Counties of Albany (annual), Chenango (triennial), Greene (semi-annual—Cairo), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer, Schoharie (semi-annual), Tioga (quarterly—Owego), and Wayne (semi-annual), N. Y.; Medical Association of Northern New York (annual—Malone); Newark, N. J., and Trenton, N. J., Medical Associations (private); Medical Societies of Bergen and Cumberland (semi-annual) Counties, N. J.; Litchfield, Conn., County Medical Society (annual); Alabama Surgical and Gynæcological Association (first day—Birmingham).

Wednesday, *October 12th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Franklin, Mass. (quarterly—Greenfield), Hampshire, Mass. (quarterly—Northampton), Middlesex, Mass., South (Cambridge), and Plymouth (special), Mass., District Medical Societies; Vermont State Medical Society (annual—Montpelier); Philadelphia County Medical Society; Alabama Surgical and Gynæcological Association (second day).

Thursday, *October 13th:* Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Medical Society of the County of Cayuga, N. Y.; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; Alabama Surgical and Gynæcological Association (third day).

Friday, *October 14th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties (anniversary).

Saturday, *October 15th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Edward D. Kittoe, M. D., of Galena, Ill., died on Friday, September 29th, in the seventy-fourth year of his age. The deceased was a native of England and was graduated in 1841 from the Pennsylvania Medical College, an institution that was closed in 1861. After practicing his profession for several years in Muncy, Pa., he moved, in 1851, to Galena. In 1862 he was appointed surgeon in the Forty-fifth Regiment of Illinois Volunteers, and in the same year was commissioned a surgeon in the United States Volunteers and served on the staff of General Sherman until 1864. He was subsequently on the staff of General Grant until appointed a medical inspector and reassigned to General Sherman's staff. After the fall of Atlanta he was appointed medical inspector to the Department of the Northwest, and in December, 1865, was mustered out of the service with the brevet rank of Colonel of United States Volunteers. During his residence in Pennsylvania he was a member of the State Medical Society, and one of its vice-presidents in 1850–'51.

Letters to the Editor.

A COCAINE PECULIARITY.

109 West Forty-fifth Street.

To the Editor of the New York Medical Journal:

Sir: I think one peculiarity of cocaine has never been written about in the journals, although it may often have been observed by individual practitioners, and that is its tendency to lose its strength (in solution) after a day or so. I have never taken care to measure the time accurately when it begins to do so (after being made into a solution), but I have noticed for some months back that, unless I get a very small supply of the solution at a time, of the strength which I make use of (four or twenty per cent.), I can not produce with it the full anæsthetic effect after using the same solution three or four days. The idea suggests itself to me that this is the reason why, when cocaine is accomplishing such brilliant results for some who use it, others find its results often negative, and are therefore inclined to depreciate its good qualities. I make it a practice to get the solution put up in rubber-stoppered bottles, but even then I notice the same tendency of the solutions to lose their strength on standing a few days; so that I confine myself to getting the smallest requisite quantity at a time. When the four-per-cent. solution is combined with Dobell's solution, it also shows the same peculiarity.

Amory Chapin.

LEGOUEST'S PERIOSTEOTOME.

5 West Thirtieth Street, *October 4, 1887.*

To the Editor of the New York Medical Journal:

Sir: In your issue for October 1st Dr. W. W. Van Arsdale draws attention to a "novel periosteal elevator" which he has devised, and publishes with his communication some sketches illustrating it. For the past twelve years I have had in my possession, and in use, an instrument identical in all respects with the larger one figured, except that its handle is flatter. I can speak from experience as to the usefulness and the many advantages of this instrument over any other form of elevator that I have used. The instrument I own was made by Robin & Colin, Paris. It has been figured in catalogues, and is known as Legouest's periosteotome. Respectfully,

Charles T. Poore.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

(*Concluded from page 386.*)

The Treatment of the Pedicle in Supravaginal Hysterectomy.—Dr. Martin, of Berlin, opened the discussion on Dr. Bantock's paper. He had been the first to apply the India-rubber tube around the pedicle while operating, and he dared say that in this way he had avoided the loss of more blood than what was contained in the tumor itself. He obtained security against hæmorrhage after the operation by uniting the stump in a conical manner. In reply to his own question, Of what did patients die? he said a certain number died of sepsis, and to this they were exposed whether the pedicle was treated by the internal or by the external method. As the normal place for the pedicle was within the abdomen, we should return to the internal method.

Dr. A. R. Simpson, of Edinburgh, present by invitation, did not profess to be an advocate of supravaginal hysterectomy, but he thought the treatment of the pedicle when the operation was done must be according to the individual case, and not according to any ideal method. He thought the clamp was likely to hold its ground in any case of removal of fibroid tumor. The procedure was shorter than that described by Dr. Martin, and time was important in these operations. He had powdered the stump with persulphate of iron, which dried and withered it, and proved safe and satisfactory.

Dr. Gardner, of Montreal, present by invitation, thought, from his limited experience, that he would not discard the clamp.

Dr. H. Marion-Sims, of New York, had used the external method alone, applying the rubber ligature and clamp. Of eight patients treated during the past three years, six had recovered, and two had died.

Dr. M. D. Mann, of Buffalo, had in his first case ligated the pedicle *en masse* and dropped it. He was summoned afterward, and found the patient in collapse from loss of blood, the ligature having slipped. He then treated the stump by the extraperitoneal method, and the patient recovered. In his other cases the extraperitoneal method had been employed. Regarding the stump, he simply rubbed iodoform into it and left it exposed.

Dr. E. Van de Warker, of Syracuse, had operated in four cases, employing the external method in two cases and the internal in two; one of the latter ended fatally, but the tumor removed was very large and recovery was hardly expected.

Dr. Bantock thought the ideal method had not yet been attained. Until Dr. Martin could give better statistics than his own, he thought he should die impenitent, continuing to employ the external method. Regarding the stump, no drying material should be dusted on it. Absorbent cotton was sufficient. When trouble arose it was from below the level of the wire. The peritoneal surfaces should be accurately coaptated to prevent any matter entering the cavity.

Battey's Operation; its Matured Results.—Dr. Robert Battey, of Rome, Ga., said that in the title of this paper he employed the term Battey's operation as best expressing the importance of an artificial change of life as a remedy for disease. It was necessary, in order to judge of the value of the operation, to note carefully the results a long period after it was performed. His own practice being private, he had been able to obtain the continued history of a large number of the cases. Of the tabulated cases there were fifty-four; thirty-three patients had been cured, eight much improved, five little improved, and eight not at all improved. In fifty the menopause had been complete; pseudo-menses continued in four. The change of life was the most important factor in securing complete results from this operation. In certain cases the cure took place almost at once, but in the vast majority of cases the patient had to first pass through the varying symptoms pertaining to the natural change of life before complete restoration. This time might be a year, three years, or even five. Of the patients whose cases he had reported, doubtless a few had been badly selected, and should not have been operated upon, but the proper selection of cases was yet an unsolved problem. Patients addicted to the morphine, chloral, or alcoholic habit could not be restored until this habit was abandoned. Proper subjects for this operation, if allowed to go on year after year, would finally reach a stage where it would be absolutely impossible to cure them by any known means.

The discussion of Dr. Battey's paper took place in connection with that of the succeeding paper.

The Infantile Uterus.—Dr. A. W. Johnstone, of Danville, Ky., read a paper embodying the following conclusions: 1. The uterus is not only an entirely independent organ, but it embraces two parts the functions of which are entirely separate, and there may be arrest in either or both. 2. From its exposed position, the growth of the cervix is much oftener interfered with than that of the body. 3. Congenital flexions are largely due to this arrest. 4. The arrested growth of the body nearly always means an interference with the proper development of the endometrium. 5. This immaturity of the endometrium prevents its progress to a myeloid state necessary to the formation of the placenta, which means permanent sterility. 6. This interference is most probably due to some damage to the pudic sympathetic. 7. Where there is marked diminution in the body, the stretching of the neck is apt to result in little if any good. 8. When life has become a burden that is clearly due to the arrested development, the menopause should be hastened, but not until we are sure nothing else can relieve. These, the author said, were not altogether novel opinions, but he would say that, if we wished to have a clear idea of the true physiological positions of the uterus, we must emancipate it from the thraldom of the ovary, in the grasp of which it had been firmly held for the past fifty years.

Dr. Battey, in reply to questions, said that removal of the ovaries was not really necessary to Battey's operation. Had Professor Simpson carried out his suggestion to ligate the ovary, and had he brought about the change of life thereby, he would have done Battey's operation. It was the change of life that he was seeking. Removal of the ovaries did not invariably produce the menopause; still further, removal of the ovaries *plus* the tubes did not invariably secure the menopause; indeed, removal of the ovaries *plus* the tubes, *plus* the uterus, did not invariably secure the menopause. There he would rest the question. In his experience, the ovaries were invariably diseased. He removed the tubes whenever they were diseased, but, on looking over his cases, he had found that in only a relatively small number had the tubes been diseased, the seat of pyo-salpinx or hydro-salpinx. He did not operate for disease of the ovaries, but to stop their function. He had never insisted upon visible evidence of disease of the ovaries to justify the operation. It was the urgent necessity of doing something, other measures having failed, that led him to operate. Visible disease of the ovaries was only a collateral fact. He had utterly repudiated normal ovariotomy years ago. His object was to secure the change of life, and he cared not how it was obtained.

The Use of Antiseptics in Private Obstetric Practice.—Dr. Theophilus Parvin, of Philadelphia, read a note on this subject. He thought the reasons for the use of antisepsis in maternity hospitals also held good in private obstetric practice. The fact that without them one had attended many confinement cases without a death did not prove that such a practice had done no evil short of destroying life. The author then presented a conveniently portable case in which one could place corrosive-sublimate tablets, also tablets of carbolic acid and persulphate of iron, needles and thread, etc.

Extra-uterine Pregnancy and its Treatment by Electricity.—Dr. Ely Van de Warker, of Syracuse, read a paper in which, after pointing out the need of wider experience and more definite observation and practice, he gave a description of two cases. In the first he used faradaic electricity, but, being dissatisfied with it, in the next case he employed the galvanic current. It was a week before it could be said that the mass was shrinking, but before that it had become softer to the feel. One writer maintained that a fœtus of five months had been absorbed within three weeks after its death caused by the electrical current. The author thought the facts must have been observed obliquely; months were required in his case before the tumor had disappeared.

Remarks, based upon cases seen and reported by them respectively, were made by Dr. J. C. Reeve, of Dayton, O., Dr. H. Marion-Sims, of New York, Dr. J. R. Chadwick, of Boston, Dr. M. D. Mann, of Buffalo, and Dr. J. E. Janvrin, of New York.

Dr. Martin, of Berlin, had not employed the electrical current, but he had removed the fœtus by laparotomy in sixteen cases, and had seen it done many more times. In Germany they preferred not to wait, trying measures to kill the fœtus within the body, but to operate before a possible danger arose. He had lost but one patient out of nine operated upon for tubal pregnancy, and in that case the tumor had ruptured, and the patient was dying when he operated.

Dr. Apostoli, of Paris, thought electricity should first be tried. The faradaic current, when employed about the gravid uterus, had caused no ill effect. The constant current was the one to use, as one could depend upon it to produce absorption or miscarriage.

Vaginal Injections in Sims's Posture.—Dr. Frank P. Foster, of New York, read a brief paper with this title. The object he had aimed at in administering hot-water vaginal injections with the patient in Sims's posture, or rather in a posture somewhat more prone than Sims's, was to secure deeper penetration of the water than was ordinarily possible in the dorsal posture. For this purpose, he used the cup douche of his own contrivance, which was figured and described in Emmet's "Gynæcology," but reversed the cup, so that the entrance to the outflow pipe corresponded to the anterior commissure of the vulva.

Veratrum Viride in the Treatment of Puerperal Eclampsia.—Dr. Charles Jewett, of Brooklyn, read a paper on this subject. He had used Squibb's fluid extract of green hellebore. The only method of bringing the circulation rapidly under its influence was by the hypodermic syringe. The average dose was ten to twenty minims. It was seldom necessary to employ more than thirty to control the convulsions. Small doses repeated every half-hour might be used, but he preferred a larger dose, which brought the patient more rapidly under the influence of the drug. He had so treated twenty-two cases; in sixteen the labor was completed by the forceps or version. There were six deaths—three from complications and three from eclampsia. The beneficial effects of the drug were seen in its power to arrest the convulsions and lower the pulse. Carefully employed, it should be harmless. Other measures were not neglected.

Dr. A. F. A. King, of Washington, said that twenty years ago he had published a paper in the "New York Medical Journal," in which he took the ground that eclampsia was due to disturbed circulation from early descent of the fœtal head into the pelvis, which was the rule in primiparæ, and pressing upon the vessels. Theoretically, he thought veratrum would be beneficial, and because of its effects upon the circulation.

Dr. Barker, of New York, referred to his use of a decoction of hellebore obtained in Connecticut forty years ago, before it could be obtained in New York, and to the gradual introduction of the drug.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of September 14, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

Simple Fracture of the Distal Phalanx of the Index-finger.—Dr. A. C. W. Beecher reported a case. This apparently trifling accident, he said, was so infrequent that until three years before he had never seen a case either in hospital or in private practice, and then it occurred in the person of his father. While upon a balcony, desiring to re-enter the room from which he had emerged, he raised the window-sash, and by neglect the point of the index-finger was caught between the muntin of the lower sash and the frame of the upper one, causing intense pain and almost producing a faint. Upon examination of the part, the gentleman found no ecchymosis under the nail, but feared that the injury was such as to cause its loss. Pain continued for some time, particularly when pressure was made upon the point and palmar surface of the finger; this was attributed to the bruise. After some days, the speaker's attention was particularly called to the finger by the statement that, by pressing upon the point of the finger and attempting motion, there seemed to be a roughness and motion which did not belong to the joint. An examination confirmed this, and showed that there existed a transverse fracture of the shaft of the phalanx. As the patient's business required considerable use of the member, the speaker was for a moment puzzled as to a dressing that would be efficient and at the same time neat and not bulky. He applied a narrow bandage from the end of the finger to the second phalangeal joint, making two layers; this he then coated thickly with collodion, which was of a syrupy consistence, the result of the slow evaporation of the ether. Drying and hardening quickly, this made a neat, smooth, and stiff waterproof casing, which was worn with but one change until the fracture was cured.

For a neat, clean, and efficient dressing in the simple fractures of the distal and second phalanges he could not imagine a form superior to this, though the solution of sodium silicate or gutta-percha would answer as well as the collodion. The usual care in not making the bandage too tight before applying the solution must not be overlooked here. Fractures of the phalanges were usually the result of direct violence, often very great, producing compound fractures and requiring amputation, and for this reason simple fractures received but little notice in the various works on surgery.

Dr. A. B. Hirsh said that, some three years before, a gentleman had come to his office for an injury to the distal phalanx of his right index-finger; he had within the previous half-hour caught it in closing a safe-door. Crepitus showed a simple fracture, and he applied a light dressing similar to the one described by Dr. Beecher, but the exact material he did not now remember. The patient spoke of how conveniently small and light the "splint" seemed—in fact, it scarcely interfered with his book-keeping. There was no deformity.

Special Meeting of September 19, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

Some Morbid Conditions of the Urine.—Dr. F. W. Pavy, F. R. S., of London, read the following paper: I must, first of all, express the honor I feel in being invited to meet with you this evening, and next to apologize for impairment of voice due to cold, and for being under the influence of fatigue from travel. I am before you to say a few words upon certain morbid conditions of the urine, and my hope is that we may compare notes of observations in the Old World with observations in the New World. I shall first of all refer to albumin. Albumin in the urine with us was formerly regarded as a matter of the most serious import, but we are now beginning to recognize that a certain amount of albumin in the urine is not always of grave import. My own practice lies very largely with urinary diseases, and patients coming under my care always have the urine examined by an analyst; and I am frequently meeting with a certain amount of albumin in the urine, without its presence being attended with anything that would lead me to suspect that a grave condition exists. In association with diabetes, it is not at all uncommon to find, when the patient first comes under observation, a certain amount of albumin in the urine; but when the patient is put under treatment for the diabetes, it is not infrequently found that the albumin disappears in the course of a few weeks. In these cases of albumin in the urine, we must look to the general condition of the patient to see whether or not there are other indications of the existence of grave renal disease.

There is another condition which I presume has been brought before the profession in America, in which albumin exists at a certain time of the day, and not at others. I have suggested for this condition the term *cyclic albuminuria.* I have studied these cases for some years past, and I should think that they occurred in this country as well as in the Old World. I know that they occur in Germany, for the matter has been taken up there and followed out. This condition is observed in persons who are excitable and of a nervous disposition, and, as a rule, in young persons, although I have met with some cases in the middle-aged. The albumin is to be met with at one time of the day and not at others. These cases are recognized, as it were, only by accident. Sometimes the urine is examined on account of some pain in the loins, but most frequently these cases are discovered through examinations for life-insurance purposes, or for some branch of the civil service, as is required by the Bank of England. So long as the individual maintains the recumbent posture, no albumin will be detected, but in an hour and a half or two hours after rising the maximum quantity of albumin will be found. As a rule, the quantity of albumin declines toward evening, and on going to bed it has entirely disappeared. Sometimes a trace of albumin is to be found in the afternoon and evening, but the first urine passed on rising in the morning contains no albumin whatever. These cases seem to be of no serious import. I suppose that the presence of albumin depends on the condition of the vessels. I suppose so, but certain it is that these cases are not associated with any constitutional condition. I now come across quite a large number of them.

I shall next refer to *sugar in the urine.* This is another morbid element which has varying degrees of importance. In young persons it is of the gravest import, while in elderly persons it is not so serious. In early life I have known cases to go on for years, but this is the exception; the usual duration is about two years. Ultimately they all terminate unsatisfactorily. After the middle period of life, however, sugar in the urine has a very different significance. In young subjects we have a disease which seems to be of a progressive nature. Notwithstanding whatever we may do for it, there is something which insidiously progresses in the system and leads ultimately to a fatal termination. But after the middle period of life a good deal depends upon the patient himself. Under proper management the disease may, as a rule, be held under control and the patient live for years in a satisfactory condition, but, to accomplish this, rigid measures of treatment must be carried out.

One may express in a very few words, and without advocating any idea or theory, the precise nature of *diabetes mellitus*, or sugar in the urine. I should speak of it as a defective or aulty assimilative action—a faulty chemistry. The elements of the food which we take undergo chemical change in the system, by which they are rendered useful. A certain group of principles entering largely into the composition of our food are the carbohydrates. These principles in diabetes do not undergo their proper chemical change and thus become eliminated from the system. What do we observe in a state of health? A person takes one of the carbohydrate group, it makes no difference which—starch, grape-sugar, cane-sugar, dextrin, or sugar of milk; they all behave alike in the system—and it is so changed as to be rendered subservient to the requirements of the system. In a state of health we see nothing more of them. Not so in diabetes. In the diabetic these carbohydrates are no longer consumed. There is a faulty disposal of them. Received into the alimentary canal and afterward absorbed, they do not undergo their proper transformation, but pass off from the system in the form of sugar in the urine; so that I say, looking at these two conditions, a condition of health and a condition of diabetes, we may describe diabetes as a faulty disposal—a faulty transformation or assimilation of the carbohydrate elements of our food. In diabetes, in proportion as these carbohydrates are taken, so will be the amount of sugar in the urine. This I can say without any hesitation whatever.

In order to follow a case of diabetes satisfactorily, I consider that a quantitative examination of the urine should be made, and, for myself, I feel quite in the dark as to the progress of a case unless I have this quantitative examination. In my own practice I keep an analyst who examines the urine of patients—a night and morning specimen—and directly I get the analytical report, I can read off exactly the condition that I have to deal with. Without this I should be perfectly in the dark as regards the progress or the severity of the case. It does not do to rely on the specific gravity. I have met with a specific gravity of 1·040 without any sugar in the urine. Medical men are often concerned over the specific gravity of the urine. The patient may have been put under treatment, but still the specific gravity keeps up to 1·032 or 1·035, although the urine is free from sugar. Under these circumstances, I say to the medical practitioner, Do not concern yourself with the specific gravity. If the urine is free from sugar, the high specific gravity is a favorable sign, as showing that the kidneys are equal to good work. If the kidneys were diseased, there would be a low specific gravity. The high specific gravity may be kept up by the passage of only a limited quantity of water, and by the nitrogenous diet which the patient is taking adding to the elimination of urea. On the other hand, a low specific gravity may sometimes be met with where there is a considerable quantity of sugar in the urine. I have met with a specific gravity of 1·009 or 1·010, and yet the urine contained a considerable quantity of sugar. These have been mixed cases of diabetes insipidus and diabetes mellitus. They are proved to be mixed cases by the fact that, when the patient is put under proper dietetic treatment, the sugar disappears, but the quantity of urine keeps up. I myself do not attach so much importance to the specific gravity as is done by certain medical men.

In testing the urine for sugar, my opinion is that the copper test is by far the best. As we all know, Fehling's solution is the test generally employed, but there is this disadvantage about Fehling's solution, it does not keep well; after being kept some time, it throws down a precipitate without the presence of sugar. This has led to many mistakes in diagnosis. I have frequently had patients sent to me with the statement that they were suffering with diabetes mellitus, when the only trouble was that a faulty Fehling's solution had been employed. Some years ago I directed my attention to the question whether the ingredients of Fehling's test could not be put together in the form of a pellet, and the solution be made as required. Certain difficulties were experienced at the outset, but these have been overcome. The pellets, as now made, consist of sulphate of copper in the anhydrous form, Rochelle salt, and potash. It is necessary to separate the sulphate of copper from the potash. This is done by first putting in the die the sulphate of copper, then a little Rochelle salt, next the potash, and, finally, more Rochelle salt. The pellet, after being made, is surrounded with waxed paper and kept in a well-stoppered bottle. If properly prepared and handled with care, the cork not being left out of the bottle, these pellets will keep indefinitely. There is this advantage about the pellet—it will never deceive you, for if it is allowed to absorb moisture, it at once becomes unfit for use, the oxide of copper being thrown down in the form of a black precipitate.

In the treatment of diabetes, I attach the greatest importance to diet. I do not consider that you can get on with the management of these cases unless you exclude as far as possible those principles of which there is a faulty assimilation. If sugar appears in the urine, it must previously have existed in the blood. I know from frequent examinations that the blood contains a trace of sugar, which may be represented in figures as from 0·5 to 0 8 part in a 1,000. In harmony with this condition of the blood, there has been a trace of sugar in the urine.

The ammonio-cupric test is the one I employ as a quantitative test. It consists of Fehling's solution with the addition of ammonia. With Fehling's solution there is, on the addition of saccharine urine, a precipitate of the suboxide of copper, and, for quantitative purposes, this precipitate interferes with the determination of the exact time when complete reduction has taken place. While the presence of ammonia does not interfere with the reduction, it keeps the reduced suboxide in solution, and we get the decoloration without the formation of any precipitate whatever. The addition of ammonia gives a more ntense blue color to Fehling's solution, and this is brought by the reduction to the color of water without the formation of any precipitate. With the apparatus in perfect order, the quantitative determination can be made in two or three minutes. This test is so delicate that ordinarily, to perform it satisfactorily, you have to dilute the urine 1 : 20, and where it contains much sugar, 1 : 40. I usually determine the proportion of sugar n a thousand parts of urine, but, if it is desired to determine the number of grains to the ounce, this can be done by multiplying the quantity in a thousand by 0·4375.

In examining the urine of a diabetic, I generally desire that a night and a morning specimen be brought. When a person ives as people ordinarily live in England—that is to say, taking a meal on rising in the morning, breakfast; a meal in the middle of the day, lunch; and a meal in the early part of the evenng, dinner—the urine passed on going to bed contains considerably more sugar than the urine passed in the morning. Where a person dines in the middle of the day and sups shortly before going to bed, then the conditions are reversed—there is less ugar in the night water than in the morning water. Over and over again, by the quantitative examination of the urine, I have detected errors of diet where the patients have had the greatest desire to keep to what was right. A person who has been passing only a little sugar brings a specimen which contains a large quantity of sugar. Under such circumstances we must look for some error in the preceding meal. In one case this proved to be blane-mange which had been made with corn flour. Blane-mange for the diabetic should be made with cream and gelatin or isinglass. In another case a patient had been passing very little sugar, when suddenly the quantity increased. Careful questioning revealed no error in diet, until it was learned that the patient had substituted for the bran biscuits which he had been using others said to be "just as good," which examination showed to be made of the whole meal. I refer to these cases to show the value of the quantitative analysis.

In the treatment of these cases the exclusion of the carbohydrate elements of the food should be as complete as possible. In the case of a person in the middle period of life, I first put the patient upon a strict diet. Very often the sugar for a time lingers in the urine. It is materially diminished, but has not disappeared. I may also say that I have, in addition, recourse to opium, codeine, or morphine, for I believe that these drugs have an important influence in controlling the disease—or, to put it in other words, they restore the assimilative power. Certain it is that, under the influence of these drugs and strict diet, sugar after a time disappears from the urine; and, after the urine is kept free from sugar for a few months, I find that the individual has a certain amount of assimilative power over the starch of bread. I test this by giving him a couple of ounces of bread. Frequently there is no reappearance of sugar. If there is no return after this has been continued two or three weeks, I increase the quantity to three ounces per diem. Then, if there is no return, to four ounces and a half; and, finally, to six ounces. Then the person is in the position of a small bread-eater. I recommend patients to be content with that. They can very well give up potatoes and sugar, but to give up bread is a serious matter with many people. When a person can take six ounces of bread per diem he is not in an unfavorable condition. Many of these persons can continue to take this quantity of bread with no return of sugar in the urine. If, however, they go further and resume their ordinary diet, there will be a reappearance of sugar. The urine must be taken as the guide. Treating the case in this way, my experience is that, after the middle period of life, these patients do exceedingly well.

I must apologize, Mr. President, for the crudeness of these remarks, for I have had no time for preparation. I thank you most heartily for the attention which you have given to me. I can not close without thanking you and your countrymen for the cordial reception given to myself and my *confrères* by everyone with whom we have come in contact.

Dr. James Tyson said: It is needless to say how much indebted we all feel to Dr. Pavy for his remarks, and in the brief time allowed for discussion I desire first to say that I think we, in America, have passea through much the same transition in our views as to the import of albumin in the urine as has taken place in England. The fact is thoroughly recognized that albumin may be present without any serious import; but the explanation of these curious albuminurias is still unsatisfactory. There are a certain number of them which are clearly the result of diet, and may be called alimentary albuminurias, but that all cases can not be thus explained is shown not only by the cases alluded to by Dr. Pavy, but also in such as those where the urine on rising is free from albumin, but in which within an hour afterward the urine passed is albuminous, although no breakfast has been taken. The crucial test for the determination of the gravity of an albuminuria is the presence or absence of casts. I have found that in these harmless albuminurias tube casts are invariably absent; and where there is a constant association of albumin and tube casts, it, of course, means renal disease, no matter how slight the general symptoms may be.

With reference to sugar, we also entertain much the same views. In my hands Fehling's solution has proved the most satisfactory test, although open to the disadvantages alluded to by Dr. Pavy. Much, however, may be done to preserve it; if the bottle is kept corked and in a dark place, the solution will keep for a much longer time. I have also obtained satisfactory results in this respect from a Fehling's solution in which mannite was substituted for the tartrate of potassium and sodium. I have found that the pellets made in this country rapidly spoil. In reference to the treatment, we largely agree. I am inclined to believe that certain sugars, and especially certain fruit-sugars, are better managed by the diabetic than others are. Thus, I think that a patient may eat an apple, or even an orange, without much disadvantage, whereas the use of grapes is always attended with an increase in the quantity of sugar. The same is true of milk-sugar. I am satisfied that milk is a good diet for most diabetics, although, of course, it is not a cure. The dietetic treatment is, for the most, efficient; but, so far as my experience with drugs goes, I am satisfied also that the preparations of opium, and especially codeine, are the most efficient adjuncts to the dietetic treatment. They are, however, open to the objection that they produce constipation, which almost always aggravates the other symptoms of diabetes.

Dr. J. W. **Holland** said: The remarks of the previous speaker have reminded me of my experience with glycerin as an organic medium in Fehling's solution. This makes a solution which keeps for a considerable time, although not indefinitely. At the Jefferson College laboratory we employ two solutions of definite strength, one containing the sulphate of copper, and the other Rochelle salt and the caustic potash or soda. These are mixed in equal quantities when it is desired to employ the test. In the use of Dr. Pavy's quantitative test, I find one small objection—which can be obviated by extreme care—that is, if the solution is boiled in an ordinary capsule the ammonia will be driven off and reoxidation of the copper follows. If a flask is employed, the ammonia will not escape so rapidly. One form of pellet lately brought to my attention is the indigo-carmine pellet. This seems to keep indefinitely. It is composed of sodium carbonate and the sulphindigotate of sodium. It is a very sensitive test—even more sensitive than Fehling's solution.

Dr. **Kleen**, of Carlsbad, was introduced, and said: I had, two years ago, under my care at Carlsbad a most singular case. Mme. X., of Gothenburg, fifty years old, then consulted me, telling me that she was suffering with diabetes, that the illness had accidentally been discovered the year before, and that she had then visited Carlsbad (1884) and consulted Professor Seegen (who since that time had retired from practice). Mme. X., when I saw her, presented no symptoms of diabetes or of any other illness, except some nervous debility. I gave her a considerable quantity (100 grammes) of cane-sugar, collected the urine for some hours, and afterward for twenty-four hours, but found no glucose in it. I did not succeed better after she had dined copiously on rice and other amylaceous food. I then pronounced her free from diabetes. I still kept the case under observation, however, and at last found, upon examining the urine two hours after a meal, which had ended with a large portion of sweet fruits (mostly pears), a small quantity of reducing substance. Both Fehling's and Nylander's (bismuth) solutions showed reactions corresponding to the one we got, with urine containing 0·1–0·2 per cent. of glucose. When testing the urine with polarization by the spectroscope, I found, to my utter surprise, a slight deviation *to the left*. The urine did not contain a trace of albumin. I was at a loss what to think of it, and submitted it to the test of fermentation. The same day, however, I received a letter from Professor Seegen stating that when the patient was under his care her urine had contained much larger quantities (as much as 3 per cent.) of reducing substance, and that he had found that substance to be *levulose.* At the same time, Professor Seegen sent me a supply of glucose, asking me to submit the patient to a test of her toleration of that substance. So I did, and found that doses of 100 grammes or more did not produce more than very small quantities of reducing substance in the urine—that substance, to judge from a very slight deviation to the left in a good instrument, being levulose.

Worm-Müller has proved that glucose, administered in large doses, passes in a certain (small) proportion unchanged into the urine, even in healthy persons, while it passes in a much larger proportion into the urine of the diabetic patient. He has also found that all the different species of sugar, administered in large doses, in a certain (small) proportion, pass *unchanged* into the urine even of healthy persons, while in the diabetic patient at least some portion of them passes into the urine *transformed into glucose.* He believes in this latter circumstance to have found a difference, therefore, between persons suffering from real diabetes and those whose urine, while under ordinary diet with the common reagents, presents traces of glucose, or only now and then, under peculiar circumstances and in a passing manner, contains somewhat larger quantities of it. This coincides with my own experience so far as it hitherto goes. Like all physicians who occupy themselves with researches in this direction, I find every year persons whose urine shows traces of sugar, and now and then—especially after strong emotions, after alcoholic excesses, or after very rich meals of mixed food (but, generally, not after meals *exclusively* consisting of amylacea or of cane-sugar)—in a passing manner, somewhat greater quantities of a substance which shows *all* the qualities of glucose. In these doubtful cases I usually give a large quantity of cane-sugar; and afterward often find no glucose—or only slight traces of it—in the urine, till I have boiled it with mineral acid, and thus converted a portion of the cane-sugar that has passed over into glucose, whereupon I will find the well-known reaction of glucose. I consider these cases to be distinct from true diabetes, though it seems to me highly probable that they indicate a tendency to that disease, which others of larger experience than myself have also noticed—for instance, Professor Frerichs.

In the present remarkable case of lævulosuria I found that some portion of cane-sugar passed unchanged into the urine. It seemed to me to be of great interest to find out how Mme. X. reacted against the other species of sugar, especially against levulose, which, with some reason, could be expected to pass over in larger proportion than in quite normal persons. I therefore desired to administer a large amount of honey (which is a mixture of glucose and levulose), and also to make a test with milk-sugar; but Mme. X., who had heard that she should avoid sugar above all things, and who had an interest in her own case only partly of the same nature as my own, did not wish to be submitted to further experiments, especially as I could not promise that they would be without some momentary influence on the urine. I can, therefore, only give the foregoing description of the case, such as is already given by Professor Seegen, who first discovered it, but I am not without hope of being able in the future to give fuller information upon it.

I am decidedly of the opinion that the case is not, clinically speaking, strictly one of diabetes. If the substance had been glucose, it would have ranged among the large number of the above-named glucosurias, continuing unchanged for a great number of years in healthy or nearly healthy persons. I was rather astonished at seeing Professor Seegen state that the urine once contained as much as three per cent. of levulose, but can not doubt the accuracy of this most excellent observer. That the quantity has diminished so very much without any dietetic treatment makes the case even more interesting than it otherwise would be. I allowed Mme. X. a tolerably good supply of starchy foods, advising her only to avoid excessive use of them, and I have lately heard that the urine only now and then contains small quantities of reducing substance.

An Unrecognized Cause of many Throat Ailments.—Mr. Lennox Browne, F. R. C. S., of London, read the following paper:

In accepting the very flattering invitation of your president to speak a few words to the members of the Philadelphia County Medical Society, it appeared to me both more becoming and more profitable to offer you some practical remarks explaining the *rationale* of some of the commoner of throat ailments, than to attempt to magnify the office of the laryngoscope by the relation of rare and wonderful cases. I was the more inclined to this view because I was well aware that, through the assiduous industry and well-known skill of your president and other members of your society, you have for some years been kept thoroughly posted in all that is new in laryngology.

It is now some ten years since first I sought an objective explanation of the condition known as *globus hystericus*, and since I commenced to make a systematic examination with the laryngoscope of every patient who came to me with this symptom. The result was communicated in a paper to the Congress of Laryngologists held at Milan in 1880. I found that but very few cases indeed were of a hysterical character—that is, of the nature of a phantom sensation—though uterine or ovarian disorder is a not infrequent predisponent, or, at least, concomitant, of the throat condition in the female sex.

Extending the term *globus hystericus*, I find that, with hardly an exception, each and every other subjective sensation in the throat is symptomatic of an objective cause. The chief of such feelings are those of a heat, a prickling, a swelling, a weight, a straw, a hair, or other foreign body. A few patients—one especially, a hale farmer—have complained of a feeling of intense cold, which is sometimes relieved, sometimes aggravated, after food-taking. In some instances there is actual pain with spasm, cramp, and a sensation of choking, and not infrequently there is cough; this symptom varies in degree from a slight hacking to the loud hyena-like bark known as nervous laryngeal cough. Many of the cases of so-called laryngeal vertigo, or, as I prefer to call it, of laryngeal epileptoid seizures, are capable of explanation and cure, on the lines I am at present taking.

On examination of the throat of a patient with symptoms such as I have described, one may or may not see chronic congestion and relaxation of the fauces and uvula, enlargement of the tonsils or obstruction by caseated material of the orifices of the crypts, granular pharyngitis, or even laryngeal hyperæmia. Where any one of these conditions is present, treatment thereof may or may not give relief; but none of them represents the class to which I would draw your attention—namely, that in which there is no generally recognized morbid state of local significance.

The results of laryngoscopic investigations in my hands have shown that there is: 1. A varicose, and even truly hæmorrhoidal, condition of the veins at the base of the dorsum of the tongue, sometimes at the lower surface and sides, in which last case it may be symptomatic of mitral insufficiency, or of severe hepatic derangement, or even of cerebral lesion. There is often a similar varicose state of the vessels in the superior surface of the epiglottis. 2. An enlargement of the circumvallate papillæ at the back of the tongue, causing the epiglottis to be hindered in its movements—imprisoned, as your president first called it.

Just drawing attention to the fact that the structure of these glands is very similar to that of the tonsils, I may mention that in a few instances I have seen actual blocking of the orifices, similar to the condition known generally as chronic follicular amygdalitis. I may also note that it is not possible to see these things either with a tongue depressor or in the laryngeal mirror as ordinarily employed. Many observers, especially beginners, seem to consider that their sole aim is to see the vocal cords, and, if these are sound, they write down "larynx normal"; but they omit to look well to the framework. To see this condition of lingual varix and glandular hypertrophy, the mirror must be placed quite high in the throat. Where, as is often the case, there is no actual or noticeable enlargement of the thyreoid gland, it will be observed, on passing the hand gently over the front of the throat, that there is a distinct fullness of the thyreoid isthmus. If the least pressure is made at this situation, the patient—not necessarily a female—will complain that the abnormal sensation is at once excited, and, on being questioned, will admit that when it occurs the collar is felt to be too tight for the neck.

Inquiring into the general health, and happily failing to find any of the more serious lesions to which I have alluded, it will be noted that habitual constipation and a generally defective circulation are both frequent symptoms; while in others there will be concomitant evidences of a varicose diathesis, such as rectal hæmorrhoids, varicocele, or varicose veins of the extremities.

In females the menstrual flow is often morbidly frequent or excessive, and there are other evidences of an enfeebled vasomotor control. Abuse of alcohol and that of tobacco are excitants of the condition; and in the cases of singers or public speakers, defective methods of filling the lungs—forcing the lower registers upward, or other functional fault which may lead to undue strain on the palato-pharyngeal muscles and engorgement of the vessels in this region—are fruitful predisponents.

In this connection, I may refer to the accurate explanation offered by your fellow-citizen, Dr. Carl Seiler, of the ætiology and pathology of chronic pharyngitis when occurring to voice users.

Some of those obscure cases which come under our occasional notice of the presence of small quantities of blood in the mouth, or of the taste thereof on rising from sleep, will be explained by the leakage of one or other of these enlarged and hæmorrhoidal venous capillaries in the region now under consideration.

A few words as to treatment. If the case is not of long standing or of aggravated character, correction of the main constitutional cause—cessation of the faulty method of voice production, or prohibition of a vicious habit or indulgence—may be sufficient to effect a cure, but this is rarely the case. Of remedies, I give chalybeates and aperients with digitalis or ergot, as may be indicated. Locally, astringent applications, especially of chloride of zinc or perchloride of iron, are by no means without avail; they can be applied by the patient himself. Gargles as ordinarily employed are useless, and occasionally are productive of exacerbation of the symptoms. Not so if employed by the method known as that of von Tröltsch. Of lozenges, I find those of chloride of ammonium much more active in leading to resolution of the venous congestion than those of red gum, rhatany, etc.

Recent investigations show that the astringent properties of tannin have been exaggerated. Where the uvula is relaxed, the snipping of an elongated portion, especially if other functional or constitutional faults are corrected, may lead to a cure; but in a certain proportion of cases in which the promises of the specialist as to the good effects to be gained by the procedure are not realized, the cause of failure will be found in non-recognition of the various vessels. Treatment of these is best effected by the galvano-cautery point, and it is necessary to seal each individual enlarged vessel. For this purpose it may be necessary to make more than one application. Lastly, there is often a hyperæmic tumefaction of the vessels, glandules, and submucous tissues of the pharynx, naso-pharynx, and turbinated bodies; these will also be best treated by the galvano-cautery.

In conclusion, I would say that in case it may be objected that the conditions I have described are but representative of an advanced chronic congestion, I do not deny that such occasionally may be the case. In the majority, however, there are no such antecedents; and where the two exist the practitioner will fail to cure the pharyngitis, or what not, until he has recognized and treated the varix.

And it is in this light that I have ventured to call attention to the subject as one that is not generally recognized, for, beyond a short communication at Milan by my deceased colleague, Llewelyn Thomas, I have seen no allusion to it in any books or archives, and no notice is taken of it by the great teachers of Vienna. I therefore make no apology for having occupied your time with considerations that may at first appear trivial or of exaggerated importance.

Dr. Carl Seiler said: I quite agree with the speaker that the *globus hystericus* is rarely of purely imaginary origin. Some chronic inflammation of the upper part of the upper air-passages usually accompanies this distressing condition. As he truly says, pharyngitis is one of the most common causes of this symptom. At the same time the pharyngitis is to my mind, as a rule, the consequence of remote causes which may be looked for in one of three different directions—in a disturbance of the gastric system, in a disturbance of the respiratory function of the nose and naso-pharynx, and finally, and most commonly in public speakers and singers, in a faulty use of the organ of voice. This latter condition is frequently met with in those who simply use the voice for ordinary conversation. The constant irritation thus produced leads to hyperæmia and chronic inflammation, which extends upward, rather than downward, into the trachea. In the treatment of the condition described I think that little can be accomplished by the application of remedies to the apparent seat of the disease, but that the cause must be looked for and removed.

Book Notices.

Dermatitis Venenata: an Account of the Action of External Irritants upon the Skin. By James C. White, M. D., Professor of Dermatology, Harvard University; Physician to Out-Patient Department for Skin Diseases, Massachusetts General Hospital. Boston: Cupples & Hurd, 1887. Pp. 9 to 216.

We recently had the pleasure of noticing Dr. Morrow's book upon "Drug Eruptions," and now are very glad to welcome this one of Dr. White's upon an allied subject. While Dr. Morrow treats largely of the cutaneous eruptions from the ingestion of drugs, Dr. White concerns himself only with those arising from the external application not of drugs alone, but also of various other substances.

The book opens with an admirably clear general description of dermatitis venenata, which is shown to present itself as an erythematous, papular, pustular, bullous, or even ulcerative disease, according to the strength of the irritant acting on the skin, the duration of its action, and the susceptibility of the individual acted upon. Then the subject is treated of under three divisions: Plants or vegetable irritants; organic and inorganic irritants; and animal irritants. The plants are arranged under their families, and in all cases the common equivalents of their botanical names are given. We find a list of nearly one hundred plants which are more or less poisonous, and among them such common wild flowers as the Jack-in-pulpit, the ox-eye daisy, the golden-rod, the wood anemone, and the buttercup. Our author attributes to but sixty of these plants undoubted poisonous properties; and of these not a few exert their malign influence only upon a very small proportion of individuals.

In the second division of the book we have a short account of poisonous clothing, which we regret has not been more elaborated. The third division is chiefly remarkable for its exposition of the theory that the bites of insects, such as the mosquito, render the person bitten to a considerable extent proof against the poisonous effect of subsequent bites by the same insect. This theory of "protective inoculation" seems to have some *raison d'être*, judging from the clinical facts advanced by the author in its support.

Some forty pages, or about one fifth of the entire book, are devoted to the consideration of rhus poisoning. Arsenical poisoning is also considered at some length, and this section constitutes one of the most instructive of the book, though it seems to us that the case of arsenical dermatitis in a child, as given in the text, was quite as much one of arsenical poisoning from inhalation as of dermatitis from the local action of the arsenic. The usefulness of the book is impaired in many parts by the author's desire to be concise. The consideration of the dermatitides produced by insects could well have been made fuller; nineteen lines on the symptomatology of the itch, and three lines on its treatment, are far too short from so good a dermatologist as Dr. White. The want of a list of journal literature is remarkable in a monograph.

The book is a good and useful one, much of the information contained in it being drawn from the author's large experience as a physician and botanist. It will serve to explain some cases of artificial dermatitis where we are able to exclude with certainty the action of the more common poisonous plants.

The Curability of Insanity, and the Individualized Treatment of the Insane. By John S. Butler, M. D., late Physician and Superintendent of the Connecticut Retreat for the Insane, etc. New York and London: G. P. Putnam's Sons, 1887. Pp. 59.

We have read this little volume with interest. Dr. Butler writes on the question of the proper treatment of the insane as is only possible to one who, being endowed with firm perceptive faculties and humane instincts, has had ample opportunities, in the wards of a well-appointed asylum, of giving practical shape to his philanthropy. In company with all who have given the slightest attention to the evils incident to the overcrowding of our institutions for the treatment of mental disorders, he is impressed with the fact that "individualized treatment is called for in insanity as imperatively as in the case of acute forms of other physical disease. The form of treatment is different according as the practitioner is hopefully working for a cure in an acute case, or, as in some chronic case of long standing, he is simply administering palliation and general care. The first requires his personal and persistent attention, the second may be treated in a general way and may be committed to others."

That a large percentage of recent insanity is curable under the prompt and scientific use of medical and moral means is beyond doubt. To attain good results, however, a more thorough segregation of the chronic insane from those recent cases in which a favorable outcome may be reasonably predicted is indispensable.

But not alone is success to be achieved by scientific classification; an absolute limitation of numbers is also necessary. In the large institutions devoted to the indigent insane, the great evils resulting from overcrowding have recently been exemplified at Blackwell's Island; and the insane in almost every State in the Union have suffered from the same cause.

Dr. Butler's little book differs widely from that catchpenny literature which, while pretending to enlighten, has nothing to teach, simply because the authors of such ephemeral productions have but too often never served in even the humblest capacity in an insane hospital, and can therefore have but shadowy conceptions of the practical questions involved. Reform which emanates from amateur—we had almost said histological—alienists has usually little practical ring in it. Only those who have lived with the insane can ever hope to thoroughly appreciate the exigencies of their psychology. A mind with good perceptive powers and a heart responsive to the woes of humanity are equally requisite. Dr. Butler has these things, as his admirably written little volume abundantly testifies.

Druitt's Surgeon's Vade-mecum. A Manual of Modern Surgery. Edited by Stanley Boyd, M. D., B. S., Lond., F. R. C. S., Eng., Assistant Surgeon and Pathologist to the Charing Cross Hospital, and Surgeon to the Paddington Green Hospital for Children, etc. Twelfth Edition. With Three Hundred and Seventy-three Wood Engravings. Philadelphia: Lea Brothers & Co., 1887. Pp. xvi–33 to 985. [Price, cloth, $4.]

A comparison between this and the last preceding edition, issued in 1877, serves admirably to exemplify the great progress made in surgery during the last ten years. At that time antiseptic surgery was still *sub judice*, deodorizers were employed to conceal the stench arising from a stump, ligatures were left hanging from wounds, and the extra-peritoneal operation was recommended in ovariotomy. In the present edition the results of later investigations are given in a clear though concise manner. The work has been almost completely rewritten, remodeled, and much increased in size. The division of chapters into numbered sections has been abandoned, so that the accounts given are more continuous. Part I treats of surgical diseases in general, and includes a brief but comprehensive account of bacteriology as it is at present understood. The chapters on inflammation and tumors are excellent and terse statements of the views now held on these subjects by the best authorities. Part II treats of injuries in general, including gunshot wounds, and the effects of heat, cold, animal poisons, and parasites. In the chapter on wounds there is a plain description of the manner of conducting an operation, observing the usual antiseptic precautions, according to Lister's method, with mention of the most prominent objections to certain details and of the substitutes employed. Part III comprises two thirds of the entire work, and is devoted to the injuries and surgical diseases of the various tissues, organs, and regions. This comprehends most of such injuries and diseases as are likely to come under the care of the general practitioner or surgeon, and gives directions for treatment that are sufficiently precise. While fullness of detail regarding various methods of treatment is of necessity absent, in a few cases additions or exchanges might profitably be made. Thus, no mention is made of the Velpeau bandage, which is still considered by many surgeons the best dressing yet known for fracture of the clavicle. Also Heaton's operation for hernia is not mentioned, though it is frequently practiced, at least in this country, while Wood's operation, which is acknowledged to be seldom performed, is fully described. Still, the chosen method is always good and the details are clearly given. Part IV is devoted to special operations. An almost complete series of woodcuts illustrating the ligation of arteries is a new feature in this part. Taken as a whole, the present edition is well calculated to uphold the high reputation the work enjoyed for many years, and is particularly valuable for practitioners who are unable or unwilling to purchase a large treatise.

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar, Accoucheur to, formerly Interne in, the Maternity Hospital, etc. Translated by Henry D. Fry, M. D. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vii–8 to 175. [Price, $1.75.]

This practical little work, which re-echoes ideas which have of late years been instilled into the American practitioner, will be read with interest. Although it contains nothing new on the subject, the matter is presented in a clear and forcible manner that can not fail to arrest one's attention. The arrangement of the book is briefly as follows: After discussing in Chapter I the germ theory as applied to the puerperium, the author describes in Chapter II briefly the various antiseptic agents now in use, and presents in the succeeding chapter the history and statistics of puerperal septicæmia before and after the adoption of antiseptic principles. Chapters IV to IX treat of the *technique* of antisepsis during and after labor, while the three concluding chapters are devoted to catheterization, rupture of the uterus, and the Cæsarean section. Antiseptic treatment of the navel and of ophthalmia in the new-born are discussed briefly in the appendix.

In general, the book may be characterized as eminently practical and abreast of the times. The American reader may take exception to some of its statements, such, for instance, as the advice given on page 139 to administer intra-uterine injections but twice daily in cases of septic endometritis. The author must hardly expect us to wait patiently for twelve hours in order to see if the temperature will fall. The style is unusually terse, and abundant foot-notes render the work doubly valuable. The translator has done his part creditably.

BOOKS AND PAMPHLETS RECEIVED.

De la tuberculose nasale. Par le Dr. A. Cartaz, ancien interne des hôpitaux de Lyon et de Paris, etc. Paris: A. Delahaye et E. Lecrosnier, 1887. Pp. 5 to 23.

Zur Lehre von den Erythemen von Prof. Dr. Polotebnoff. Vorstand der dermatologischen Klinik der militär-medizinischen Akademie zu St. Petersburg. Mit 7 Holzschnitten im Text. Hamburg und Leipzig: Leopold Voss, 1887. Pp. 177. [Dermatologische Studien. Herausgegeben von Dr. P. G. Unna. Fünftes Heft.]

Intubation of Larynx. Papers read before the New York Academy of Medicine in the Stated Meeting of June 2, 1887. By A. Jacobi, Joseph O'Dwyer, Francis Huber, Dillon Brown, W. P. Northrup, I. H. Hance, and A. Caillé. [Reprinted from the "Medical Record."]

A Reference Hand-book of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By various Writers. Illustrated by Chromo-lithographs and fine Wood Engravings. Edited by Albert H. Buck, M. D., New York city. Volume V. New York: William Wood & Co., 1887. Pp. v–813.

A Manual of the Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A. M., M. D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, etc. New York: William Wood & Co., 1887. Pp. xii–150.

Cyclopædia of Obstetrics and Gynæcology. Volume Seven. A Hand-book of General and Operative Gynæcology. By Dr. A. Hegar, Professor of Obstetrics and Gynæcology and Director of the Gynæcological Clinic at the University of Freiburg, and Dr. R. Kaltenbach, Professor of Obstetrics and Gynæcology and Director of the Gynæcological Clinic at the University of Giessen. In Two Volumes. Vol. II: Operations on the Tubes, Uterus, Broad Ligaments, Round Ligaments, and Vagina. Operations in Urinary Fistulæ. Prolapse Operations. Operations on the Vulva and Perinæum. With Two Hundred and Forty-eight Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. vi–354.

Cyclopædia of Obstetrics and Gynæcology. Volume Nine. Diseases of the Female Mammary Glands. By Th. Billroth, M. D., Professor of Surgery at the Royal University, Vienna. And New Growths of the Uterus. By A. Gusserow, M. D., Professor of Obstetrics and Gynæcology at the University of Berlin. One Hundred and Five fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. New York: William Wood & Co., 1887. Pp. iv–426.

Lessons in Gynæcology. By William Goodell, A. M., M. D., Professor of Clinical Gynæcology in the University of Pennsylvania, etc. Third Edition, thoroughly Revised and greatly Enlarged. With One Hundred and Twelve Illustrations. Philadelphia: D. G. Brinton, 1887. Pp. xvi–17 to 579.

Cyclic Albuminuria. By William Buckingham Canfield, M. D., Chief of Throat and Chest Clinic and Lecturer on Normal Histology, University of Maryland, etc. [Reprinted from the "Medical News."]

A Simple Method of Testing Color Blindness. By Henry Sewall, Professor of Physiology in the University of Michigan. [Reprinted from the "Medical News."]

What is Disease? By L. A. Merriam, M. D., Omaha, Neb. [Reprinted from the "Transactions of the Nebraska State Medical Society."]

Experiments on the Preventive Inoculation of Rattlesnake Venom. By Henry Sewall, Ph. D., Professor of Physiology in the University of Michigan. [Reprinted from the "Journal of Physiology."]

Reports on the Progress of Medicine.

SURGERY.

By M. L. FOSTER, M. D.

Nerve Injuries.—Mr. Anthony A. Bowlby has added an important increment to our knowledge regarding these injuries in the lectures delivered before the Royal College of Surgeons ("Lancet").

In his first lecture he considers the pathology of these injuries as viewed by different observers, with additions from his own observations. He maintains that the peripheral portion of a divided nerve degenerates and is then regenerated, although not united to the central healthy fibers, but that, unless such union takes place, it will probably after a certain lapse of time again degenerate, this time never to recover. Primary union is shown to be possible by two cases in which function was restored in three weeks after section and primary suture of the median nerve, but he believes it to be of rare occurrence. A very imperfect union, if any, usually results from simple section of a nerve, unless the ends are coaptated and sutured, with a corresponding loss of function in the parts supplied by the nerve. As secondary suture, several months after injury, is sometimes followed by a rapid return of function, it seems probable that regeneration is hastened by the apposition of the ends, by the union of the peripheral portion with the centers of nutrition. He emphatically denounces the commonly accepted doctrine that partial section or wound of a nerve trunk is more dangerous than complete section. The amount of trouble resulting from an injury is directly proportionate to the amount of nerve fibers divided.

The second lecture is devoted to a consideration of the trophic changes resulting from these injuries, and of the theories advanced to explain them. Some of these changes form the exception rather than the rule, but some of them are, when met with, sufficiently characteristic, as the "glossy skin" described by Paget and Weir Mitchell, and a curious condition of the nails. In some cases the nails become curved longitudinally and arched laterally, while the skin at its proximal extremity becomes retracted, exposing the matrix, while the upper line of union of skin and nail retreats into or under the latter, which then presents, instead of a smooth edge, a ragged and notched border. The toe-nails are much more rarely affected than the finger-nails, and to a less marked degree. Ulcers result sometimes from lack of nutritive force, sometimes from traumatism. The hair of the affected part is often gone, and when present is short, stumpy, and brittle. The few microscopical examinations which have been made show a degeneration of the hair follicles. Anidrosis is common, but sometimes hyperidrosis occurs over the affected part. Usually the connective tissues atrophy, and the palmar fascia becomes indurated. In some cases there is a marked tendency to œdema. The local temperature rises at first, and in about three weeks permanently falls below normal. The muscles may undergo rapid atrophy and degeneration with multiplication of nuclei of their connective tissue, and lose their galvanic and faradaic excitability. He has never seen such acute cases of joint trouble following nerve injury as are described by Weir Mitchell, but frequently finds them the seat of chronic inflammation and fibrous ankylosis. These trophic changes he attempts to explain by the theory that section of a nerve cuts off the permanent trophic influence from the parts supplied by the nerve, but he does not make it clear why section of a certain nerve should be followed in one case by these changes and not in another, as they are by no means invariable sequelæ. The treatment consists of primary and secondary suturing of the divided nerve. The ends should be freed from the surrounding tissues and freshened if necessary. The suture should be passed completely through the nerve trunk at right angles to its long axis, about a quarter of an inch from the cut surface in each end, and in large trunks another suture may be passed at right angles to the first. These sutures should then be drawn tight until the cut surfaces are brought in contact, and then the edges of the sheath should be neatly stitched together with three or four more sutures. The suture should be of absorbable and non-irritant material. In the secondary operation, as the peripheral portion of the nerve is throughout in the same state of degeneration or regeneration, it is inexpedient to make successive sections in the hope of finding healthier tissue; a very small portion only should be removed. The end of the central portion will be found bulbous, and the section should pass through the upper portion of the bulb near the normal trunk, because at this point there are numerous young nerve fibers, and the tougher tissue of the bulb furnishes an excellent hold for the sutures. When the ends of the nerve will not come into apposition, both portions should be stretched. If this does not suffice, he favors bringing the freshened ends as close as possible and inclosing them in a decalcified bone tube. If this were not practicable, he would follow Létiévant's advice and turn down a portion of the proximal end after splitting it. As to the length of time that may be required for restoration of function after the operation, nothing definite can be said. Many cases have been reported as failures or partial successes after too short a period of observation. Usually considerable improvement will appear within a year, but it may not, and yet recovery ultimately ensue. No case should be considered hopeless until after the lapse of two or three years with no signs of improvement.

Fracture of the First Rib alone.—W. Arbuthnot Lane states, ("Brit. Med. Jour.") that in fewer than two hundred subjects examined consecutively in the dissecting-room he has found undoubted fractures of the first rib alone in four cases. He found several others which he believed had been fractured, but did not include them because there might be a difference of opinion regarding them. He does not include, either, cases of fracture of the first costal cartilage. Hence he considers himself justified in concluding that fracture of the first rib alone occurs in at least two per cent. of the class from which the dissecting-room supply is drawn.

Influence of Position in the Treatment of Thoracic Aneurysm.—Dr. Mackie reports in the "Brit. Med. Jour." two cases in which the change from the recumbent or semi-recumbent position with rest to the vertical with exercise was quickly followed by improvement in the aneurysm. The first patient had a large aneurysm apparently of the innominate artery. He had been kept in bed five months taking large doses of iodide of potassium. At the end of five months he was allowed to get up and take gentle exercise. This change was quickly followed by diminution in the size of the projecting part of the aneurysm, with increasing firmness of the consolidation, so that after a few months the patient resumed work as a hawker.

The second case was one of large thoracic aneurysm in a patient with hemiplegia. The patient was unruly, and, after three weeks in bed, with restricted diet and large doses of iodide of potassium, got out of bed and moved about as much as the hemiplegia would permit. The aneurysm immediately subsided and pulsation diminished.

Mackie suggests that these changes may have resulted from the displacement of a clot or reduced blood-pressure brought about by the vertical position and gravitation of the blood, conduced to by the diminished force of the heart's action.

Treatment of Chronic Abscess by Irrigation.—In his address before the British Medical Association, Professor Hamilton described the following method of treatment of chronic abscesses: A long, curved trocar and cannula are pushed through the abscess and made to transfix it four or five inches; a piece of rubber tubing with a single hole about the center is drawn through the cannula by a thread connected with the cutting end of the trocar; the aperture in the tube being lodged midway between the wounds, the cannula is removed. One end of the tube is attached to an irrigating can hung above the patient's bed; the other end leads to a reservoir at the bedside. By means of a stop-cock the flow can be regulated as desired, a flow escaping drop by drop being sufficient to keep the contained fluid and the wall of the abscess aseptic. Distension of the sac can also be made when desired by compressing the exit portion of the tube. He considers a solution of chloride of zinc, 1 to 200, the best antiseptic to employ, maintaining that he has obtained the best possible results from this in spite of the assertion of Koch that chloride of zinc is inert as a germicide. He believes that if it does not kill the germs it renders a surface a barren cultivation-field. After about a week the abscess wall has undergone such decided alteration that continuous irrigation is not necessary, but occasional syringing is sufficient for the perfect healing of the cavity.

Conservative Surgery in Diseases of the Foot.—Mr. Wheeler ("Dublin Journal of Med. Science") emphatically disapproves of any half-way measures when there is evident disease of the bones present, but favors their immediate excision. Before deciding on any particular operation, the stage of the disease should be considered, whether acute or chronic, progressive or quiet, diffuse or limited. Partial operations are more successful in the chronic and non-diffused cases than in others. Caries following inflammation of ligaments is more favorable for partial excisions than when it commences in the cancelli of the bones. In the large articulations partial operations are worse than useless, especially when the inflammation is diffused.

Cholecystotomy.—Mr. Thomas Jones reports in the "Med. Chronicle" a case of immensely distended gall-bladder, which he evacuated six days after a preliminary operation, in which the peritoneal cavity was opened, and the parietal peritonæum sewn to the edge of the integument. The gall-bladder contained several ounces of pus and several gall-stones. The jaundice began to fade on the third day after the evacuation, and gradually disappeared. The patient made a perfect recovery, and at no time did bile escape from the wound, so that all communication between the liver and the gall-bladder must have been cut off.

Hæmorrhoids.—Mr. Whitehead describes the following operation for the cure of hæmorrhoids in the "British Medical Journal," and reports three hundred cases so operated in. In no case did death, secondary hæmorrhage, ulceration, abscess, stricture, or incontinence of fæces occur after the operation:

The patient is anæsthetized and placed in the lithotomy position, and the sphincters are paralyzed by stretching. The mucous membrane is then divided at its junction with the skin very carefully round the entire circumference of the bowel. The mucous membrane is then dissected up, and pulled down, with the attached hæmorrhoids, until the latter lie below the margin of the skin. The mucous membrane is then divided above the piles, a portion at a time, and the free margin of mucous membrane is attached immediately to the corresponding free margin of skin. In this manner a complete band of hæmorrhoidal mucous membrane is removed, and relapse is much less likely than after the use of the ligature or clamp. The after-pain is slight, and patients can resume work within a fortnight.

Treatment of Burns.—Von Mosetig-Moorhof ("Wiener med. Presse"; "Cent. f. Chir.") complains that hitherto the principles of antisepsis have been for the most part very slightly considered in the treatment of burns. He recommends the use of iodoform, and refers to the analgesic operation of that drug. The patients become more quiet a few minutes after the application, and can, after a quarter of an hour, bear moving with comparative ease. With some precaution, there is no danger of poisoning. He opens the blisters, cleanses the surface carefully with wadding dipped in a half-per-cent. solution of salt, and then covers the burned parts with several layers of iodoform gauze, first sprinkling the very badly injured places with iodoform powder. This he covers with a large piece of gutta-percha tissue, then spreads absorbent cotton over the entire surface, and applies a bandage. This dressing remains as long as cleanliness or fever does not render a change necessary, usually from one to two weeks. In case the dressing is penetrated to a great extent by the discharge, the outer layers of the dressing may alone be changed, leaving the inner untouched. Complete occlusion is impracticable on the face, so here a five-per-cent. ointment of iodoform and vaseline, covered with a mask of gutta-percha tissue, may be applied, and daily renewed.

Cerebral Abscess from Disease of the Temporal Bone.—Mr. Barker ("Lancet") takes the position that more facts may be learned regarding localization and treatment of cerebral abscesses from a careful study of the pathology of the causes which produce them than from a search for special nerve symptoms. Especially is this true in cases dependent on disease of the temporal bone, which constitute at least one third of all cases. Subdural abscesses are, as a rule, found only in very chronic cases, and are very hard to diagnosticate at an early stage with certainty unless by exploratory operation. His observations in the post-mortem room lead him to locate the abscess either over the roof of the tympanum close to the squamoso-petrosal suture, or on the posterior surface of the petrous bone. In some cases it extends from one to the other of these spots. In the first place it may be reached by gouging cautiously through the bone half an inch above and the same distance behind the center of the bony meatus of the ear. In the second, half an inch behind the center of the bony meatus. Both operations may be necessary to exclude subdural abscess; in that case the upper one should be performed first. Encephalic abscesses appear, broadly stated, to be produced in two ways—by a septic inflammation extending from the walls of the tympanic cavity into the substance of the brain and there setting up an inflammatory process in the white substance, or by extension from the middle ear to the dura mater and thence to the cortex of the brain through a more or less localized lepto-meningitis. Both may start from the same form of inflammation of the middle ear, with or without caries of its walls and with or without subdural abscess. In the first form there may be a considerable thickness of sound cortical tissue between the surface of the brain and the abscess. The course of the veins along which the inflammation runs is liable to considerable variation, but they usually pass from about the middle of the temporo-sphenoidal lobe either into the superior petrosal sinus, or to the dura mater about the roof of the tympanum, or to the petroso-squamosal suture. Hence he concludes that these abscesses are usually in the middle or posterior part of the temporo-sphenoidal lobe, and that nine tenths of them would be found to lie within a circle an inch and a half in diameter with its center lying an inch and a quarter above and the same distance behind the center of the bony auditory meatus.

Abscess of the cerebellum he believes to be always found at the outer and anterior part of the lateral lobe, which rests against the petrous bone. These collections, when of ordinary size, are outside the motor areas, and press upon a part of the brain which is very tolerant of stimulation and the functions of which are still obscure. So there may be no special nerve symptoms to guide, and reliance must be placed on the other general clinical signs. Among these he calls attention to the temperature. There is first a feeling of malaise and drowsiness, with slow pulse, terminating in a sudden great rise of temperature with a single rigor. Then the temperature gradually falls to subnormal, perhaps without subsequent rise. But in his cases the peculiarity was that the subnormal temperature was most marked in the evening. This is so unlike what we are accustomed to see with pent-up septic matter in other localities, when an evening rise is characteristic, that he suggests it may have some special significance in cases of abscess of the brain. Sluggish but perfect cerebration is in some cases a very marked symptom. Optic neuritis he maintains to be valuable when taken in connection with other symptoms, but apt to be misleading if relied on to too great an extent.

Miscellany.

The late Dr. Alonzo Clark.—At a regular meeting of the Medical Board of St. Luke's Hospital, held Wednesday, September 24th, the following sentiment was ordered to be entered upon the minutes:

It has pleased the Master to call to his reward our late associate, Professor Alonzo Clark, M. D., who early in the history of St. Luke's was appointed consulting physician, and for many years was president of our medical board. We, his associates, feel that we can not allow him to depart from among men without formally recording our high appreciation of his character and example. Of impressive stature and dignified presence, he commanded attention and inspired respect. Throughout his long professional life he was a teacher of great influence, and did much to elevate and improve the standard of medical instruction. A man of broad and liberal culture, he frowned upon pretense and quackery, so that those who practiced such arts slunk away abashed from his presence. We who have known him long and well feel keenly his loss, and sympathize with the grief of those near and dear to him, who have been left to mourn, but "not as those without hope."

[Signed.]
George A. Peters, M. D.,
President Med. Board,
A. Brayton Ball, M. D.,
Albert A. Davis, M. D.

A Volunteer Medical Corps in Philadelphia.—At a meeting held in Philadelphia last week, the work of organizing an association for rendering free medical aid to the municipality was advanced. It is announced that the organization is to include active members, constituting an emergency corps; honorary and associate members; and patronesses. Officers for the ensuing year were elected as follows: President, Dr. C. J. Cleborne; vice-president, Dr. T. H. Andrews; secretary, Dr. G. M. Bradfield; recording secretary, Dr. William Price; treasurer, Dr. T. S. K. Morton.

The Doctor's Ironing-board.—A writer in the "Boston Transcript" says: "In a good old western Massachusetts town lives a doctor who has buried four wives. When number four was a bride of a few days she went with her oldest step-daughter into the attic to find an ironing-board. Seeing a board that she thought would answer her purpose nicely, she was about to take it, when the daughter exclaimed: 'Oh, don't take that, for that is what father uses to lay out his wives on!'"

The New York Academy of Medicine.—The Section in Surgery will meet Monday evening, the 10th inst. Dr. C. A. Powers is announced to read a paper on "Fractures through the Head of the Radius."

The Section in Neurology will meet Friday evening, the 14th inst. A paper entitled "Nervous Symptoms from Ocular Defects; their Relief by Mechanical and Medicinal Measures," will be read by Dr. R. W. Amidon.

The Section in Ophthalmology and Otology will meet Monday evening, the 17th inst. Dr. J. E. Weeks will read a paper on "The Antiseptic Properties of the Topical Remedies employed in Ophthalmology and Methods of Sterilizing Instruments, tested bacteriologically."

The Section in Theory and Practice of Medicine will meet Tuesday evening, the 18th inst. Dr. George B. Fowler will read a paper on "The Detection and Significance of Traces of Sugar in the Urine, with special reference to Life Insurance."

A Sanitary Convention is to be held at Albion, Mich., on the 6th and 7th of December, under the auspices of the State Board of Health.

Ulceration of the Nasal Septum as a Cause of Epistaxis.—Dr. Beverley Robinson writes to us as follows: "I have received a letter from Dr. Samuel Lloyd, of this city, in which he calls my attention to the fact that, in my paper published in the 'New York Medical Journal' for September 24th, I failed to give credit to the late Dr. James L. Little for having first directed attention to the fact that erosion or ulcer of the septum was a frequent cause of epistaxis. Dr. Little's article, entitled 'A hitherto Undescribed Lesion as a Cause of Epistaxis, with Four Cases,' was published in the 'Hospital Gazette' for March 9, 1879. It is at once a duty and a pleasure for me to rectify a sin of omission in regard to a matter of medical history, while crediting a deceased friend and colleague with what justly belongs to him."

M. Luys's Experiments in Hypnotism, an account of which was recently given by our Paris correspondent, are made the subject of the following comments by the Paris correspondent of the "Lancet": "There can be no doubt that these experiments have been performed with the results published; and, if the experimenters think that the application of their tubes and the symptoms which follow have a relation of cause and effect, they are, of course, entitled to that belief. But in my opinion the experiments are carried on in the very worst possible conditions for a scientific test, and in many cases the observers seem not only to ignore the psychology of hysteria, but also to be unacquainted with the most elementary principles of hypnotism. I have seen the operator guilelessly whisper to a visitor that such and such an effect would be produced, apparently unaware of the fact that in the hypnotic condition there is a state of hyperacusia which makes the faintest sound audible. When the subject does not actually hear what is the name of the medicine under experiment, she is almost sure to have to go through her performance in a certain order. The experimenter generally shows the phenomena *crescendo*, from the less to the more astounding, and should there be any change in this respect to the trained subject, the expression of the face and the inflexion of the voice are very sufficient guides. There is also such a thing as auto-suggestion, and, from what I have seen, it is very often the would-be suggester who comes away from the *séance* with a delusion."

Contusion of the Abdomen with Rupture of the Intestine.—The operative treatment of traumatic peritonitis, and of the injuries which cause it, is a subject treated of in the October issue of the "American Journal of the Medical Sciences," by Dr. B. Farquhar Curtis, of New York, who has studied the general subject by the aid of a series of 44 experiments upon dogs, and an analysis of 116 cases of rupture of the intestine and of 33 cases of contusion of the abdomen terminating in recovery, with special attention to the symptoms of the first hours after injury, in the hope of rendering an early diagnosis possible, and of indicating the most promising methods of treatment. The practical results of the inquiry may be summed up as follows: The treatment of contusion of the abdomen should be purely expectant in the early stage, until symptoms of internal injury have appeared, or until the full extent of time in which they may be expected has passed. Explorative laparotomy at this time is inadmissible. When symptoms of uncontrollable internal hæmorrhage or serious visceral injury appear, laparotomy is indicated; but, when the diagnosis is uncertain, the operation should always be begun as an exploration. Great collapse is an absolute contra-indication to all operative interference. When rupture of the intestine is found, the best method of treatment is to secure the injured gut in the abdominal wound, and form an artificial anus. This can readily be cured by a subsequent operation when the patient has recovered his strength.

Neuralgic Headaches with Apparitions of Unusual Character.—Dr. S. Weir Mitchell reports in the October number of the "American Journal of the Medical Sciences" five peculiar cases of migraine which must be excessively rare, since with the largest opportunities he has seen but four examples. They are so interesting that they possess a value which sets them quite above the position of mere rarities. In the cases he describes, the ordinary subjective images of zigzag lines or rotating wheels were replaced by more definite shapes, so as sometimes to induce the belief for a time, on the part of the patient, that a ghost had been seen. In two cases the vision came as the only visual phenomenon of severe headaches. Now and then the apparitions were various, at times following the common zigzags, and at others occurring in the intervals of a succession of exasperating headaches.

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin," for August, the whole number of deaths reported was 9,042, including 2,950 from zymotic disease. Each thousand of the whole number of deaths included 238·70 from diarrhœal diseases, 21·46 from typhoid fever, 33·42 from diphtheria, and 102·80 from consumption. There were nearly 2,500 fewer deaths than in July.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending September 29th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending September 10th corresponded to an annual rate of 18·8 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Derby, viz., 12·2, and the highest in Preston, viz., 29·1 in a thousand. Small-pox caused 3 deaths in Sheffield and 1 in Bristol.

London.—One thousand three hundred and forty-nine deaths were registered during the week ending September 10th, including 15 from measles, 53 from scarlet fever, 18 from diphtheria, 50 from whooping-cough, 2 from typhus, 17 from enteric fever, 107 from diarrhœa and dysentery, and 1 from cholera. There were 160 deaths from diseases of the respiratory organs. Different forms of violence caused 59 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 16·7 in a thousand. In greater London 1,637 deaths were registered, corresponding to an annual rate of 15·8 in a thousand of the population. In the "outer ring" 33 deaths from diarrhœa and 10 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending September 10th in the sixteen principal town districts of Ireland was 23·8 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 8·5, and the highest in Galway, viz., 40·3 in a thousand.

Dublin.—One hundred and eighty-nine deaths were registered during the week ending September 10th, including 17 from measles, 3 from whooping-cough, 4 from scarlet fever, 2 from typhus, 5 from enteric fever, 34 from diarrhœa, and 2 from dysentery. Diseases of the respiratory organs caused 17 deaths. Two accidental deaths were registered, and in 28 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27·9 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending September 10th corresponded to an annual rate of 19·4 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Paisley, viz., 16·2, and the highest in Greenock, viz., 26 in a thousand. The aggregate number of deaths registered from all causes was 484, including 11 from scarlet fever, 5 from diphtheria, 40 from whooping-cough, 11 from fever, and 45 from diarrhœa.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,654,555, during the week ending September 3d, corresponded to an annual rate of 25·2 in a thousand. The lowest rate was recorded in Wiesbaden, viz., 10·9, and the highest in Chemnitz and Münster, viz., 39·1.

Montevideo.—Eight hundred and four deaths were registered during the months of May and June, 1887, including 74 from small-pox, 143 from diphtheritic croup, 27 from enteric fever, 2 from whooping-cough, and 1 from measles.

Buenos Ayres.—One thousand one hundred and forty-six deaths were registered during the month of June, 1887, including 226 from small-pox, 22 from enteric fever, 6 from scarlet fever, and 84 from diphtheria.

Malta.—The United States consul, in his dispatch dated September 1st, with reference to cholera, states that "the situation here has not altered materially, although matters in general have assumed a brighter aspect, so that there is ground to expect that the health of this population will soon resume its normal condition. Sixty-two cases and 19 deaths have been reported since August 22d, and 17 deaths have occurred from cases previously reported."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Glasgow	Septemb'r 10.	545,678	195	..	....	....	....	3	3	2
Warsaw	August 27.	439,174	240	..	....	17	....	....	....	....
Warsaw	September 3.	439,174	270	..	....	25	....	....	10	2
Amsterdam	Septemb'r 10.	378,686	143	..	....	...	....	2	1	1
Rome	July 16.	372,779	191	..	....	3	....	7	1	....
Rome	July 23.	372,779	186	..	....	4	....	2	4	1
Rio de Janeiro	August 13.	300,000	347	..	....	133	....	2	....	1
Rio de Janeiro	August 20.	300,000	324	..	1	131	1	2	....	1
Munich	August 27.	269,000	164	..	....	....	....	1	....	3
Palermo	Septemb'r 11.	250,000	148	47	....	....	....	2	6	3
Edinburgh	September 3.	258,629	87	..	....	....	....	2	3	....
Belfast	Septemb'r 10.	224,422	88	..	....	....	....	1	1	....
Havana	Septemb'r 15.	208,000	200	..	11	62	....	6	....	....
Genoa	Septemb'r 10.	179,441	63	..	....	....	1	....	....	1
Leipsic	Septemb'r 10.	170,000	86	..	....	....	....	....	....	7
Trieste	August 27.	150,157	89	..	....	5	....	....	....	2
Trieste	September 3.	150,157	99	..	....	15	....	....	5	5
Toronto	Septemb'r 17.	120,000	35	..	....	....	....	1	....	3
Bremen	September 3.	119,000	45	..	....	....	....	1	....	1
Havre	Septemb'r 10.	112,074	118	..	....	2	....	29	....	....
Pernambuco	August 3.	111,000	44	..	....	....	2	....	....	....
Reims	September 3.	97,903	70	..	....	....	....	....	....	2
Leith	September 3.	72,297	21	..	....	....	....	....	1	....
Merida	September 6.	50,000	51	..	1	....	....	....	....	...
Maracaibo	August 20.	40,000	18	..	1	....	....	....	....	....
Maracaibo	August 27.	40,000	19	..	....	....	....	1	....	....
Cienfuegos	Septemb'r 12.	35,464	24	..	5	3	....	....	....	....
Guayaquil	September 1.	30,000	43	..	....	10	....	....	....	....
Guayaquil	September 8.	30,000	74	..	...	26	....	....	....	....
Gibraltar	September 4.	23,631	9	..	....	....	....	2	....	....

UNITED STATES.

Key West, Fla.—Yellow Fever.—Two new cases and 1 death are reported for the week ending September 28th.

New York Quarantine.—The health officer at New York reports 6 cases and 5 deaths from Asiatic cholera up to date among the immigrants from the steamship Alesia.

THERAPEUTICAL NOTES.

The Preparation of Aseptic Sponges.—The "Lancet" quotes the following from the "Vereinsblatt pfälzischer Aerzte": Sponges of medium porosity are the most easily treated, those in which the pores are too fine being freed with difficulty from sand and shell-lime. They are well dried by heat, and are freed from coarse sand by being beaten with canes, after which they are placed upon a coarse hair-sieve and washed until the water runs off absolutely clear and free from sediment. They are then subjected to the action of a solution of potassium permanganate (1 to 1,000) for about two hours, and enough crude hydrochloric acid is added to cause the violet color to disappear entirely. Then they are washed repeatedly, until the water used no longer reddens litmus-paper, well dried, and placed in a solution of corrosive sublimate (1 to 1,000), where they are left for ten or twelve hours. The corrosive sublimate is removed by occasional washings with distilled water, and the sponges are dried in a room free from dust (or, preferably, in a drying press), until loss of weight ceases to take place. It is indispensable to preserve them in tightly closed metal or glass receptacles.

Papayotin in Fissures of the Tongue.—Schwimmer ("Wiener med. Woch."; "Nouv. remèdes") has succeeded in the treatment of fissures of the tongue with papayotin after failure with chromic acid, iodoform, and nitrate of silver. He used a solution of from 1 to 2 parts of papayotin in 10 parts each of glycerin and distilled water, applied five or six times a day, the fissure being previously well dried. No maceration takes place, but the pain is stopped and the epithelium renewed. The treatment was used in twenty-five cases, all of which were completely cured, except one, which was of a syphilitic nature, and in that case, although antisyphilitic treatment had failed, amelioration followed the use of papayotin.

Antipyrine in Articular Rheumatism.—Bernheim and Simon ("Rev. méd. de l'Est"; "Lyon méd.") report the results observed by them in thirty-four cases. The good effect was undoubted in twenty-eight cases, while in six there was little if any effect. Of nineteen cases of acute or subacute rheumatism, the remedy was effective in eighteen. Of twelve cases in which there was no fever, incomplete or doubtful success was recorded in two, both of which were chronic. Of two cases of gonorrhœal rheumatism, amelioration was observed in one, and absolutely no effect in the other.

An Emulsion of Cod-liver Oil.—The British Pharmaceutical Conference's "Formulary of Unofficial Remedies" ("Brit. and Colon. Druggist") gives the following formula:

Cod-liver oil	40 fluidounces;
Powdered tragacanth	200 grains;
Tincture of benzoin, Spirit of chloroform, Glycerin, each	½ fluidounce;
Oil of cassia	2 fluidrachms;
Distilled water	a sufficient quantity.

Place the oil in a dry Winchester quart, and add the tragacanth, tincture of benzoin, and spirit of chloroform, previously well mixed; agitate briskly for a minute; then add all at once a pint of distilled water, and agitate as before; lastly, add the essential oil, the glycerin, and enough distilled water to make four pints. Shake vigorously for a few minutes. The dose is from 2 to 8 fluidrachms.

Blaud's Pills.—The same formulary (*ibid.*) gives this formula:

Sulphate of iron	60 grains;
Carbonate of potassium	36 "
Powdered sugar	12 "
Powdered tragacanth	4 "
Glycerin, Distilled water, each	2½ minims.

Reduce the sulphate of iron to a fine powder, add the sugar and tragacanth, and mix intimately. Reduce the carbonate of potassium to a fine powder in another mortar, and thoroughly incorporate the glycerin and water with it. Transfer this to the mortar containing the sulphate of iron, beat thoroughly until the mass becomes green and assumes a soft pilular consistence, and divide into twenty-four pills, each of which will contain one grain of ferrous carbonate. Dose, from one to three pills.

Ammonio-ferrous Sulphate.—Chicandard ("Lyon méd.") suggests the use of this salt in medicine, for the reason that it is very stable, whereas the other ferrous salts speedily undergo chemical change on exposure to the air. The ammonio-ferrous sulphate, or sulphate of protoxide of iron and ammonium, $Fe(NH_4)_2 (SO_4)_2 + 6HO$, contains one seventh of its weight of metallic iron. Seventeen parts will dissolve in a hundred parts of distilled water. Its taste is astringent, but not so decidedly so as that of ferrous sulphate.

Poisoning with Cannabis Indica.—Schuschny ("Orvosi Hetilap"; "Pester med. Presse"; "Ctrlbl. f. klin. Med.") calls attention anew to the lack of uniformity in preparations of Indian hemp, and reports the case of a woman, twenty-two years old, with spasm of the bladder, who, after having taken about three grains and a half of the extract (in three doses two hours apart) showed the following symptoms: Great anxiety, dizziness, a thready pulse (132 to the minute), great sweating, and dilatation of the pupils. The intelligence was not affected. The symptoms lasted about eight hours, and were not followed by either the delightful sensations or the polyuria sometimes observed.

Oil of Sassafras to Mask the Odor of Iodoform is recommended by C. E. Dodsley ("Brit. and Colon. Druggist"). "The addition of four drops to the ounce of iodoform," he says, "completely covers the disagreeable odor so characteristic, nor is the presence of the oil rendered evident to the most sensitive olfactory organs."

Chloral Hydrocyanide is recommended by Hermes ("Inaug. Dissert.," Berlin, 1887; "Med. Chron.") as a substitute for hydrocyanic acid, on account of its stability and constancy of composition; 6·46 parts of the compound are found to correspond to 1 part of anhydrous hydrocyanic acid.

ANSWERS TO CORRESPONDENTS.

No. 51.—There are two different succinates of iron. The one that has been recommended as a solvent of gall-stones is the hydrated succinate of the peroxide of iron. A teaspoonful of a solution of three parts of the salt in thirteen parts of water is given three times a day.

No. 52.—The subject is more fully treated of in Wagner's "Manual of General Pathology" than in any other recent work with which we are acquainted.

No. 53.—Raynaud's disease was described by Raynaud in a Paris thesis entitled "De l'asphyxie locale et de la gangrène symétrique des extrémités," published in 1862.

No. 54.—The term micro-aspirator has been applied to an apparatus for sucking air through a filtering medium, for the purpose of separating microscopical substances contained in the air with a view to their examination.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, October 15, 1887.

Original Communications.

THE CAUSATION OF PNEUMONIA.*

By HENRY B. BAKER, M. D.,
LANSING, MICH.

The reason for my coming before you is, I suppose, that, having collected statistics of sickness and of deaths over wide areas and over considerable periods of time, it is desirable to learn how the results of the tabulation of such statistics, and of certain lines of reasoning based upon such statistics, agree with evidences from other sources concerning which members of this society are best qualified to judge. At the last meeting of the State board to which I belong leave of absence was voted me for this purpose, and, in making the motion, a fellow-member remarked that it was understood that, in coming here to present this subject before you, I should learn more than any of you, and it would be my duty to communicate what I learned here to as many as possible in our own State for the public good. So I trust that members of this society will express themselves freely on the subject of the causation of pneumonia. As I understand it, truth is the object of our search.

In Michigan rather more than one hundred representative physicians, in active general practice in different parts of the State, send to the office of the State Board of Health, regularly after the close of each week, a report of the sickness which has come under their observation during the week just passed. This is a system of "collective investigation of disease" which, in my opinion, is worthy to rank as scientific, because it is a report so soon after the occurrence of the facts reported that there is a probability that not many of the facts will be omitted.

A corps of meteorological observers supply reports of tri-daily observations in different parts of the State. Both sets of observations, of sickness and of the weather, have been kept up for several years, so that the statistics cover so many reports that all minor errors—such as those of diagnosis, of omissions, etc.—tend to balance each other, and curves made from several years' observations are reasonably true and regular curves, containing in themselves evidences of their probable truth.

The reports of sickness mention the diseases which were observed during the week, *old* cases as well as new cases; therefore a curve based upon the reports and representing the rise and fall of any given disease should, when compared with a curve representing the cause of that disease, be found to follow later in time, lagging behind the curve representing the cause of the disease by a time equal, at least, to the average duration of the disease. Accompanying this paper are tables corresponding to the diagrams presented, exhibiting by figures in tabular form the same facts which are graphically shown in the diagrams.

Let me ask your attention now to Diagram No. 1 in the series which has been distributed to you. You will see that it includes statistics of eight years, of over thirty thousand weekly reports of sickness, and over one hundred and fifty thousand observations of the atmospheric temperature. You will see that the curve representing temperature is quite regular, that the same may be said of the curve representing sickness, and that this last follows the other curve with such uniformity as to carry conviction that there is some necessary relation between them. Upon the subject of the average duration of pneumonia, fatal and non-fatal, I should be glad to hear an expression from members of this society. I believe the average duration is more than two weeks. In my diagrams the smallest division is one month, and the line representing sickness from pneumonia follows uniformly one month later than that representing temperature. It follows in such an unmistakable manner that I think it certain that there is a relation of cause and effect. Having reached this conclusion, it was desirable to learn whether the same relation held in other parts of the world. Diagram No. 2 shows that it held with respect to that portion of the United States over which the United States armies were scattered during the three years 1862, 1863, and 1864; that diagram includes the statistics of nearly fifty thousand (49,487) cases of sickness from pneumonia. Diagram No. 3 shows that the eleven thousand five hundred and ninety-six deaths from pneumonia in the United States armies during those three years also sustained a similar relation to the atmospheric temperature, although the average duration of the fatal cases would seem to have been longer than the non-fatal cases, the curve for deaths being *two* months later than the curve for temperature (indicating that the average duration of the fatal cases was more than forty-five days). Diagram No. 4 shows that the one hundred and fourteen thousand (114,119) deaths from pneumonia in London, England, in the thirty years 1845 to 1874 sustained a similar relation to the atmospheric temperature, although there the deaths in summer follow only one month later than the temperature, and in winter the greatest number of deaths seems to precede the time of greatest cold. I think it probable that, if we could have all the facts, there would not be such a fall of the curve in the earlier months, and a tilting up of the curve of the deaths in the later months of the year, as is shown in my diagram. Diagram No. 5 shows that sickness from "respiratory disease" in the native troops in India in 1883 sustained a similar relation to atmospheric temperature; but these statistics include too few facts to make a very steady curve. I have studied the statistics in India in order to learn whether in tropical regions the same law holds which I have found to hold in temperate regions, and it seems to hold true there as elsewhere. Pneumonia causes comparatively little sickness among the troops in India, and with respect to this disease the climate is more favorable to the European troops than to the native troops; but what pneumonia they do have there seems to follow after the curve for atmospheric temperature.

Diagram No. 6 shows that in Michigan bronchitis sustains relations to atmospheric temperature similar to those of pneumonia. I have found that this is true in other parts of the world. This has a bearing upon the alleged bacterial origin of pneumonia, because, if pneumonia is caused by a micro-organism or germ, then the germ is certainly controlled by the atmospheric temperature, and, inasmuch as the curve for bronchitis is practically the same as the curve for pneumonia, bronchitis should be caused by the same germ. I do not maintain that the germ has very much to do with the causation of either of these diseases.

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* Read before the Brooklyn Pathological Society, February 24, 1887.

Dr. A. Seibert, of New York, has for several years been studying the relations of pneumonia and of bronchitis to weather, and he has found that both diseases sustain relations to atmospheric temperature similar to those shown in my diagrams. His diagrams included statistics in New York and in Germany. He has thought that relative humidity has causal relations to those diseases, but I find no such relation. Diagram No. 8 shows that in Michigan the pneumonia follows such a long time after the change in relative humidity that it does not seem probable that the influence of relative humidity can be very great. Relative humidity, as you know, gives no statement of the absolute quantity of vapor of water in the air; it is simply the per cent. of saturation of the air with vapor of water, and the quantity required for saturation differs for each degree of temperature. When the meteorologist speaks of humidity, he means relative humidity, and, unfortunately, he has impressed this habit upon physicians and biologists who have studied the ætiology of diseases. But the human lungs during life maintain a nearly constant temperature and humidity, so that when air enters the lungs cold and, consequently, dry, its temperature and humidity are immediately increased, and when that air is exhaled it is at the nearly uniform temperature of 98° F., and nearly saturated with vapor of water at that temperature. That is to say, each cubic foot of air exhaled will then contain about eighteen and a half (18·69) grains of vapor of water. The quantity of water exhaled in excess of what is inhaled depends, therefore, upon the absolute humidity of the atmosphere, so we should expect absolute humidity of the atmosphere to have close relations to affections of the lungs and air-passages. It has close relations. The quantity of water which air can contain increases with the temperature of the air, and in Michigan the curve for absolute humidity is almost precisely the same as the curve for temperature; so, as I have not many diagrams here showing the absolute humidity, I will ask you to study Diagram No. 1, and consider that that shows approximately the relation of sickness from pneumonia to absolute humidity of the atmosphere.

Considering, as I do, that it is now proved that in any given place the average sickness from pneumonia is quantitatively related to the atmospheric temperature and absolute humidity, and more dependent upon those conditions than upon any other known condition, is it possible to explain why this is so, or, in other words, how pneumonia is caused, or its cause controlled by conditions of the air inhaled? From time immemorial, exposure to sudden changes of temperature has been an alleged cause of pneumonia. For a time it seemed to me that the evidence of our sickness statistics was not in accordance with this general belief. There is most pneumonia in those months when the average daily range of temperature is smallest, and least pneumonia when the average daily range of temperature is greatest. But a little reasoning makes the evidence harmonize with the common belief. There is least pneumonia following the warmest weather, and there is most pneumonia following the coldest weather; and during the coldest weather is really the time when most sudden changes occur to mankind, because man is not continuously exposed to outdoor conditions; and the change from indoor to outdoor conditions, or the reverse, in the coldest weather is vastly greater and incomparably more sudden than the daily range of temperature out of doors at any season of the year. That the common belief is correct, therefore, there can be no further question.

The manner in which such sudden changes tend to cause pneumonia has gradually become plainer, until to-day there does not seem to be much mystery about it. For several years I have been accustomed to consider that the condition of the lungs and air-passages subjected to such sudden changes can be appreciated by reflecting upon the condition of the cheek of a person who has been exposed to intense cold out of doors, and then allowed to remain in a warm room. Under those circumstances the congestion due to reaction from cold is frequently intense; there is sometimes nearly complete paralysis of the superficial blood-vessels. Of course, something more than congestion, and different from stagnation of blood in the lungs, is found in pneumonia; but that reaction from exposure to cold is sometimes a factor in the causation of pneumonia seems to me to be certain. Professor Alexander B. Shaw, M. D., of St. Louis, Mo., is inclined to go a step further, and to believe that pneumonia may be caused by perturbation of the vaso-motor center in the medulla by impressions through nerves connecting this center with the stomach. He relates cases, and quotes M. Foster as saying that, "as a matter of fact, we find that just as the heart is affected, either in the way of inhibition or of acceleration, by influences reaching it along certain nerves, so the action of the vaso-motor center may be exalted or depressed by nervous influences reaching it from various sentient surfaces; that the exalting or depressing influence thus exercised may be brought to bear either on the whole vascular system or a *particular vascular area*." *

Dr. Shaw says: "Does not exposure to great extremes of temperature cause pneumonia by inducing neuro-paralytic hyperæmia in a circumscribed area? Does not the fact that, as a rule, but a portion of one lung [is affected], and that portion a complete lobe or lobes, harmonize more perfectly with the theory that the disease is preceded by perturbation of the particular vaso-motor center or portion of the great vaso-motor center presiding over the nutrition of the area involved, than it does with the doctrine that pneumonia is caused by a microbe?" †

Ozone and Pneumonia.—Some years ago the late Dr. Henry Day, of Stafford, England, published his researches on the causation of pneumonia and bronchitis by ozone artificially prepared. He stated that dogs caused to inhale ozone contracted bronchitis, and that, if the inhalation was prolonged, pneumonia resulted. I do not know that his experiments have been repeated by others, but it is interesting to note that, in Michigan, the curve for atmospheric ozone by months is almost the same as the curve for pneumonia. The difficulty, however, in regarding ozone as a cause of pneumonia lies in the fact that the times of most and of least pneumonia do not follow, but slightly precede the times of most and of least ozone, so that, although aside from this there is close correspondence, yet in this respect the relation is not quantitative. Were it not for the direct experiments by Dr. Day, and the fact that ozone is a powerful irritant of the air-passages, the most probable explanation would seem to be that the curves for ozone and pneumonia are similar because both are largely dependent upon the atmospheric temperature. Yet there is one other reason for a belief that ozone may be a factor not only in the production of pneumonia, but of all diseases in which there is an excess of fibrin in the blood. Ozone is a powerful oxidizer. Inhalation of ozone may favor a change of the albuminous to fibrinous constituents of the blood. Possibly the comparative absence of ozone from cities may account for the smaller death-rate from pneumonia in cities than in country districts, but it seems more probable that it is because of less exposure to cold outdoor air.

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* "St. Louis Courier of Med.," July, 1886, pp. 24, 25, 27, 28.

† *Ibid.*

Range of Atmospheric Pressure.—Diagram No. 7 shows that there is a close relation between the average daily range of atmospheric pressure and sickness from pneumonia; the greater the range of pressure, the more pneumonia, with a slight discrepancy in the month of February, in which mouth the range is more closely associated with the wind than with the temperature. Perturbations of atmospheric pressure may have to do with the causation of pneumonia, but I conclude that this is not the controlling cause, for, if it were, the curve for pneumonia would follow the curve for range of pressure invariably, instead of more closely approaching the curve for temperature. Waves of atmospheric pressure are, in a general way, caused by differences in temperatures; they seem to be greatest, or at least heaviest, when the air is heaviest—that is, coldest and driest.

Absolute Humidity and Pneumonia.—I come now to the explanation of what I consider the most important factors in the causation of pneumonia. Of those who master the evidence sought to be concentrated in Diagram No. 1, in the pamphlet before you,* I think few will dispute that, in some way, directly or indirectly, pneumonia is quantitatively related to temperature of the atmosphere. It seems to be more closely related to temperature than to any other known meteorological condition, unless it is absolute humidity, the curve for which is about the same as for temperature. The direct effects of cold, and reaction from cold, seem to be insufficient to account for all the phenomena of pneumonia. The closest indirect relation is, as stated, through the absolute humidity of the atmosphere, and I believe it is through the absolute humidity of the atmosphere that temperature controls the amount of pneumonia, as follows: Air expired from the human lungs is nearly saturated with vapor of water at a temperature of about 98°. Each cubic foot of such air contains nearly nineteen grains of vapor. The quantity of vapor exhaled is at all times greater than the quantity inhaled; but, when the air is very cold and dry, the quantity exhaled is excessive, as may be seen when we reflect that a cubic foot of air at zero, Fahr., can contain only half a grain of vapor, and at 32° only two grains, while at 70° F. it may contain about eight grains; so that when air at zero is inhaled, each cubic foot of it, when exhaled, takes from the air-passages about eighteen grains of vapor of water. In passing off, this vapor leaves in the air-cells and air-passages the non-volatile salts, such as chloride of sodium. When the air inhaled is excessively dry, as it always is when excessively cold, this salt collects in the air-cells of the lungs in considerable proportions. This fact may not be generally understood, but it follows almost necessarily, in accordance with well-known laws, from the conditions I have stated, and it has been experimentally proved to be true in pneumonia by Lionel S. Beale, of London, England, as long ago as 1852, that the chlorides collect in the lungs in pneumonia. Mr. Beale's investigations were undertaken to verify the researches of Redtenbacher, who in 1850 proved that during the onward progress of pneumonia the chlorides were absent from the urine. Mr. Beale also sought to learn "the channel through which the chloride of sodium was eliminated," "or the locality in which it was stored"; also "with the hope of being able to trace the connection between the absence of the salt from the urine and the occurrence of hepatization."*

On this last point I think Dr. Beale was not successful. His explanation that it was through the selective affinity connected with new cell formation has not, I think, been accepted; but he proved that the salt colleced in the lung in pneumonia. In one case he also found sugar. My explanation of the connection between the fact of the presence of the chlorides in the lung and the coincident hepatization I am able to quote almost entirely from a standard text-book on physiology, as follows: "Speaking of sodium chloride," Professor Dalton says, "one of the most important characters of this salt in the living body is undoubtedly its property of regulating the phenomena of endosmosis and exosmosis, or the transudation of nutritive fluids through the organic membranes." †

Again he says: "There are even some cases in which endosmosis takes place without being accompanied by exosmosis. This occurs when water and albumin are employed as the two liquids, for while water readily passes inward through the animal membrane, the albumin does not pass out." ‡

"But a substance like albumin, which will not pass out by exosmosis toward pure water, may traverse a membrane which is in contact with a solution of salt. This has been shown to be the case with the shell-membrane of the fowl's egg, which, if immersed in a watery solution containing from three to four per cent. of sodium chloride, will allow the escape of a small proportion of albumin. Furthermore, if a mixed solution of albumin and salt be placed in a dialysing apparatus, the salt alone will at first pass outward, leaving the albumin; but after the exterior liquid has become perceptibly saline, the albumin also begins to pass in appreciable quantity." *

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* The pamphlet alluded to consisted of eight diagrams, accurately drawn to scale, graphically representing the evidences contained in the eight tables printed herewith.

* "Trans. of the Royal Medical and Chirurg. Soc.," xxxv, 1852, p. 326.

† "Treatise on Human Physiology," sixth edition, Philadelphia, 1875, p. 47.

‡ The same, p. 363.

When the atmosphere is cold and dry, and a large amount of vapor is being taken from the air-passages, and the non-volatile chlorides are consequently collecting in the air-cells, the conditions are such as Professor Dalton describes as favorable to the exosmosis of albumin, and we would expect the exudation of such constituents of the blood out toward the salt solution in the air-cells. My statistics prove that pneumonia is quantitatively related to the inhalation of cold, dry air. Exudation of plastic material into the air-cells is the most important phenomenon in pneumonia. The chain of evidence as to its causation now seems to be about complete. This seems all the more important, because, even if one accepts the evidence that micro-organisms are uniformly present in pneumonia, there is in that direction no explanation of what causes the exudation. When shown the evidence which I have collected, proving that the average amount of pneumonia is absolutely proportional to the temperature and absolute humidity of the atmosphere, a friend said: "That shows that the reproduction of the pneumococcus is controlled by the temperature"; but this can not be the true explanation, because the temperature of the air-passages is tolerably constant, and probably does not differ much at different seasons of the year. The explanation seems to be that the pneumococcus is generally if not uniformly present, and that after the exudation has been caused, in the manner which I have pointed out, the pneumococcus is able to reproduce itself in the exudate.

Possibly the characters of the different micro-organisms which may be able to multiply in the pulmonary exudate may have a bearing upon the character of the pneumonia; this conjecture is in accordance with what is known of micro-organisms. But I leave this subject of the modifications of pneumonia, believing that it is important first to have a clear idea of the manner in which is brought about the exudation—the most important phenomenon in croupous pneumonia. As to catarrhal pneumonia and bronchitis, the irritation caused by the collection of non-volatile salts, left by the excessive evaporation of vapor, seems to me a sufficient explanation of their ætiology; but, in order to come to this conclusion, I think one must first be convinced that in some way these diseases are caused by the inhalation of cold, dry air.

Certain facts in statistics which I can not elaborate at this time seem to me to indicate that, in order to cause the exudation which occurs in pneumonia, there is required a greater concentration of the non-volatile salts than is required to cause bronchitis; but of this the evidence which I put before you may not be conclusive; although by comparing Diagram No. 1 with Diagram No. 6 you will see that bronchitis increases more rapidly than pneumonia does when cold weather comes on in the autumn, and it also continues a little longer in the spring. You will see also that of all reports received throughout the year, only an average of about 40 per cent. state that pneumonia is present, while about 60 per cent. state that bronchitis is present, showing a much greater prevalence of bronchitis than of pneumonia under circumstances precisely the same.

It has been suggested that experiments on animals might properly supplement these statistics of thousands of experiences of human beings; and to certain classes of minds, perhaps to most people, that kind of evidence would be more conclusive. I trust that such experiments will be made, and I look forward to the gaining, in that way and by other methods, of much valuable information as to what constitutes the predisposing cause or causes of pneumonia. Is it not in part due to diet? Is not this the reason why there is so little sickness from pneumonia in excessively cold climates where salt is not required for the preservation of food; and why there is such a great amount of pneumonia in some warm climates, where most of the food is salted in order to preserve it?

Table I.

By months for a period of eight years, 1877–'84, the relation between sickness from pneumonia and the average temperature of the atmosphere in Michigan.

	Sickness fr'm pneumonia.(*a*)	Atmospheric t'm-per'ture.(*b*)		Sickness fr'm pneumonia.	Atmospheric t'm-perature.
	Cases.	Degrees.		Cases.	Degrees.
Average	39	46·74	July	18	70·68
January	62	21·43	August	14	68·85
February	66	25·60	September ...	18	62·05
March	62	31·04	October......	23	51·34
April........	56	44·48	November....	35	35·99
May.........	42	56·60	December....	48	27·25
June	27	65·54			

(*a*) Indicating what per cent. of all reports received stated the presence of pneumonia then under the observation of the physicians reporting.

(*b*) The average temperature is for groups of several stations in different parts of the State. It is stated in degrees Fahr. Over 30,000 weekly reports of sickness and over 150,000 observations of the atmospheric temperature are represented in this table.

Table II.

By months (made of uniform length—thirty days each) for the three years, 1862–'64, the relation of sickness from pneumonia in the United States armies to the average atmospheric temperature.

	Sickness from pneumonia.(*a*)	Atmospheric tem-per'ture.(*b*)		Sickness from pneumonia.	Atmospheric t'm-perature.
	Cases.	Degrees.		Cases.	Degrees.
Average	229	56	July.......	85	78
January	427	36	August	74	76
February ...	447	38	September..	77	69
March......	415	45	October	139	56
April.......	324	54	November ..	233	46
May........	176	66	December ..	281	38
June	107	74			

(*a*) Average number of cases sick with pneumonia per 10,000 soldiers ("mean strength") of the white troops.

(*b*) The meteorological data for just the years 1862–'64 not being obtainable, the average temperature for a long series of years (three to thirty) at several representative stations is used instead.

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* "Treatise on Human Physiology," p. 363.

TABLE III.

By months (all made thirty days) for the three years 1862–'64, the relation of deaths from pneumonia in 100,000 white troops in the United States armies to the average atmospheric temperature.

	Average number of deaths from pneumonia.(*a*)	Average atmospheric temperature. (*b*)		Average number of deaths from pneumonia.	Average atmospheric temperature.
Average....	54	56°	July.......	23	78°
January ...	97	36	August	16	76
February ...	105	38	September..	13	69
March......	110	45	October....	18	56
April.......	86	54	November..	47	46
May........	42	66	December ..	59	38
June.......	26	74			

(*a*) Number of deaths per 100,000 ("mean strength") white troops.

(*b*) The meteorological data for just the years 1862–'64 not being obtainable, the average temperature for a long series of years (three to thirty) at several representative stations is used instead.

TABLE IV.

By months for a period of thirty years, the relation of average deaths per week from pneumonia in London, England, to the average atmospheric temperature.

	Average deaths per week from pneum'nia.	Average atmospheric temperature.		Average deaths per week from pneum'nia.	Average atmospheric temperature.
Average....	73	51°	July... ...	42	64·2°
January....	98	38·6	August.....	37	63·5
February....	86	40·1	September..	43	59·1
March......	91	42·2	October....	66	52·2
April.......	82	48·6	November..	98	44·2
May........	67	52·7	December ..	108	40·5
June.......	53	60·0			

TABLE V.

By months, the relation of sickness from respiratory disease in the native troops to the average atmospheric temperature, at six stations in India, during the year 1883.

	Respiratory disease.(*a*)	Average temperature.(*b*)		Respiratory disease.	Average temperature.
Average....	43	78°	July.......	24	84°
January....	111	67	August ...	20	85
February....	73	69	September..	21	82
March......	47	77	October....	31	79
April.......	32	86	November..	43	71
May........	28	90	December ..	58	64
June.......	23	87			

(*a*) Cases of sickness from respiratory disease per 10,000 native troops—months corrected to uniform length.

(*b*) At six stations representing approximately the latitude and longitude of the stations of those troops.

TABLE VI.

By months for a period of nine years, 1877–'85, the relation of sickness in Michigan from bronchitis to the average atmospheric temperature.

	Sickness from bronchitis.(*a*)	Average atmospheric temp'rature.(*b*)		Sickness from bronchitis.	Average atmospheric temperature.
	Cases.	Degrees.		Cases.	Degrees.
Annual average......	62	46·25	June......	54	65·30
January....	77	20·77	July.......	43	70·73
February ...	78	23·89	August	41	68·23
March......	77	29·76	September..	49	61·73
April.......	72	44·14	October....	55	50·72
May........	61	56·23	November..	67	36·23
			December ..	72	27·28

(*a*) Indicating what per cent. of all reports received stated the presence of bronchitis then under the observation of the physicians reporting.

(*b*) Over 35,000 weekly reports of sickness and about 173,000 observations of atmospheric temperature are represented in this table.

TABLE VII.

By months for a period of four years, 1882–'85, the relation of sickness in Michigan from pneumonia to the average daily range of atmospheric pressure.

	Sickness from pneumonia.(*a*)	Average range of pr'ssure.(*b*)		Sickness from pneumonia.	Average range of pressure.
	Cases.	Inch.		Cases.	Inch.
Annual average......	34	·214	June......	25	·150
January....	55	·325	July.......	15	·125
February ...	58	·294	August	12	·136
March......	57	·298	September..	16	·156
April... ...	51	·208	October....	22	·203
May........	37	·171	November..	30	·228
			December ..	39	·272

(*a*) Indicating what per cent. of all reports received stated the presence of pneumonia then under the observation of the physicians reporting.

(*b*) The average daily range of atmospheric pressure, in inches of mercury, is for groups of several stations in different parts of the State.

TABLE VIII.

By months for a period of eight years, 1878–'85, the relation between sickness in Michigan from pneumonia, and the average relative humidity of the atmosphere.

	Sickness from pneumonia.(*a*)	Average relative humidity.(*b*)		Sickness from pneumonia.	Average relative humidity.
	Cases.	Per ct.		Cases.	Per ct.
Annual average......	38	75·0	June......	26	71·7
January....	59	80·7	July.......	17	72·1
February ...	65	79·5	August	14	73·9
March......	62	76·1	September..	18	75·0
April.......	55	68·2	October....	23	76·2
May........	41	67·5	November..	33	78·9
			December ..	45	82·1

(*a*) Indicating what per cent. of all reports received stated the presence of pneumonia then under the observation of the physicians reporting.

(*b*) Per cent. of saturation of the atmosphere with vapor. The average is for groups of several stations in different parts of the State.

HYDROTHERAPY IN MENTAL DISEASES.*

By THEODORE H. KELLOGG, M. D.

THE term hydrotherapy embraces every form of internal as well as of external use of water in the cure of disease. As the various external applications of water are more especially to be here discussed, as indicated in the treatment of mental diseases, the more limited term balneotherapy might be preferred as corresponding more nearly with the scope of this article.

The history of a remedy that has stood the test of ages is often in itself an instructive commentary, and perhaps no introduction could be more appropriate than a few lines giving salient historical points in hydrotherapy. The believer in balneology as a modern science is taught humility by a review of past facts, which show with what a quick and truthful instinct mankind in all ages has employed water, a natural element, as a cure for disease. The old Mosaic law and the Mohammedan religion, with injunctions as to daily ablutions, show how well both the curative and prophylactic value of water was understood. The Arabians had a most complete system of hydrotherapy, and the Turkish bath of modern Oriental lands is only an imitation of one of their forms of bathing.

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Celsus and Galen, and still later Paulus Ægineta and Paracelsus, display in their writings a thorough knowledge of the use of water as a remedial agent. The Romans not only had clear ideas of hydrotherapy, but in their elaborate and costly system of public baths they utilized the hygienic resources of water on a grand scale never equaled in modern times. Their enlightened ideas of the salutary uses of water, which had been carried into France, Germany, and England, seem to have disappeared for many centuries after the downfall of the Roman empire.

In the twelfth and thirteenth centuries similar ideas were again revived in these countries by the contact of the crusaders with the inhabitants of Oriental lands.

In France and in Italy there was an active revival of hydrotherapy during the latter part of the fifteenth century and in the early part of the sixteenth century.

Again, in 1723, in Italy, Nicolo Lanzini published a complete treatise on hydrotherapy.

Some years later, Hahn first introduced in Germany the use of cold water in the treatment of fevers. This system was renewed and extended in a bold and useful way by Currie, who published in 1797, in England, his "Medical Reports on the Use of Water, Cold and Warm."

In the mean time many German physicians had treated cases of disease successfully by water in various forms, but in 1820 Priessnitz gave a new impetus to hydrotherapy by his remarkable success in the cure of a variety of chronic affections by water used internally and externally.

During all these past active eras of hydropathy, cases of insanity, like general diseases, were doubtless treated more or less in a hydrotherapeutic way.

This was certainly the case in France, Italy, and Germany during the eighteenth century. German physicians especially used immersions and douches with reckless determination that no modern physician would risk. Even so late and great an authority as Esquirol carried cold affusions to great extremes, and thus actually aborted some acute cases of mental disease at the risk of the patient's life, for it can not be maintained that such heroic treatment is ever entirely free from danger.

This hasty glance at the historical aspect of this subject reveals abundant clinical facts accumulated by past experience in the empirical treatment by water of both mental and general diseases. The data thus furnished have not yet been interpreted by the light of modern science, and it may also be affirmed that few reliable scientific conclusions have been formulated from the mass of facts recorded in our own day in the numerous cases of mental disease treated hydrotherapeutically.

The most comprehensive principles of guidance for the practitioner may be briefly summed up as follows:

1. Careful physiological experiments have established the effects of hot and cold water on respiration, circulation, bodily temperature, the increase of oxygenation and carbonic acid, the conversion of fat, and changes in nitrogenous tissues.

2. Rational hydrotherapeutics in mental, as in other diseases, must consist in the application of these physiological facts to meet symptomatic indications in accordance with the ætiology and pathology of each individual case.

The most complete division of this subject would require a separate description of all the hydropathic forms of treatment applicable to every ætiological and pathological condition encountered in insanity, but the limits of this article require a briefer division, which, if less scientific in form, will, it is trusted, prove equally useful in fact.

The various forms of baths and of the other external applications of water will be described in separate order, and under these distinct heads will be mentioned the special cases of mental disease in which they are indicated.

The modern Turkish bath is essentially a hot-air exposure of the naked body to a temperature varying from 95° to 180° F., followed by thorough massage of the body and limbs, and completed by the gradual cooling of the person, lightly covered, in the recumbent posture in a mild atmosphere.

Space will not permit a notice of the use of this remedy in mental diseases in past times, but in our own day Dr. Lockhart Robertson, of England, and Dr. Power, of Ireland, were among the first to make a thorough trial of this form of bath in cases of insanity, and to strongly advocate its therapeutic value. In this country the writer, in 1873, while physician in charge of the New York City Asylum for the Insane, made the first extensive trial of this remedy, and reported the results of twenty-two hundred Turkish baths administered in various forms of insanity (*vid.* Wood's "Reference Handbook of the Medical Sciences," vol. iv, p. 78). The most useful indications which it fulfills are, first, as a vaso-motor stimulant in all conditions of capillary stasis as found in the bluish extremities of melancholia attonita, primary dementia, and many secondary forms of insanity with torpid circulation and muscular inaction. The livid and mottled skin in these cases after exposure to the dry heat assumes at first a purplish tint, but after brisk superficial massage practiced centripetally, it takes on a more natural reddish hue. This improvement often remains for some hours after the bath, and in some cases it is permanent, as regards both superficial temperature and circulation. It is indicated, secondly, as a diaphoretic and desquamative agent in certain cases of melancholia in which there is apparently complete suppression of the glandular functions of the skin, which is dry, harsh, and covered with bran-like epidermic scales as if there were furfuratio universalis.

There are apt to be cutaneous paræsthesiæ and tactile illusions in these cases which often get prompt and efficient relief from the bath after the sebaceous and sweat-glands have been restored to activity.

Another most useful purpose of the bath is the passive exercise which the massage supplies in a large number of cases in which active exercise is not practicable. The various movements imparted to all the muscles of the trunk and extremities tend to maintain the muscular as well as the vascular tone, and they probably hasten metabolic changes, though to a less degree than voluntary muscular contractions.

In the class of cases mentioned above there is often not only improved circulation and return of a subnormal temperature to the norm of bodily heat, but also a generally increased nutrition and an actual gain in weight.

The Turkish bath again is a remedial agent in cases of toxic origin arising from plumbism, hydrargyrism, alcoholism, paludal intoxication, and also in syphilitic, gouty, rheumatic, and certain other diathetic insanities.

In these cases the good effects are not due to diaphoresis alone, but to the diversion of blood to the periphery from central organs, and to improved circulation and to hastened absorption and tissue changes. In mania from acute alcoholism the Turkish bath is one of the best means of elimination of the poison from the system. Cool acidulated drinks are to be freely allowed, and a sedative effect, with tendency to sleep and relief of cerebral congestion, often follows the bath.

It is to be understood that nothing like a routine use of the bath is recommended, but that the general condition of the patient and the condition of the respiration and heart's action and bodily temperature must guide the variations required in each case. General contra-indications are all organic diseases of heart, lungs, and nervous centers, and yet in these very instances a mild degree of dry heat, followed by a tepid spray and rubbing, are palliative measures.

Every Turkish bath should be supplied with a narrow needle-spray with numerous very fine jets which can be projected with great force and readily graduated from cold to very hot water. Such a needle-spray affords one of the most useful counter-irritants known, and when applied over the whole length of the spine, as well as in other special ways, it often effects surprisingly good results. The sudden reversal from hot to cold affords the most powerful vaso-motor stimulant, and capillary stasis in stuporous conditions may sometimes be relieved by this means alone, and the stupor, due to a like passive congestion of cortical capillaries, may temporarily disappear. As the needle-spray only acts on a small portion of the peripheral nervous area at one time, it has not the dangers attending the use of the shower-bath.

It has been supposed that patients would oppose the bath, but practically they do not object to it any more than to any other form of treatment, and many of them come to regard it as an actual luxury.

The Russian bath is taken in vapor ranging from 95° to 110° F. (and, if the amount of vapor in the air is small, a temperature of 130° F. even may be borne), followed by a shower- or plunge-bath. It may be roughly improvised by placing the patient in a chair or a bed, with hoops covered by a blanket, under which vapor is conducted. This form of bath is a strong nervous stimulant, increasing arterial action and diaphoresis, diverting the blood to the surface, and answering in the main the same indications as the Turkish bath.

The Roman bath is a desirable modification of these forms, by innunctions practiced after the exposure to dry or moist heat. Vaseline, cocoa-oil, and various unctuous substances may be rubbed thoroughly over the whole surface, to which they impart a most pleasing sense of softness and elasticity. The effect is often felt for a whole day, and in cases of melancholia, with the dry and furfuraceous skin above mentioned, it most effectually answers the indications.

The value of processes of anointing seems to have escaped modern attention, though it was fully recognized in the practice of Eastern nations for many centuries, and its physiological ground is the influence exerted on the immense peripheral expansion of the cutaneous nervous system. The Roman bath of ancient days was one of the most practical and perfect ever devised, and it is a question whether it would not prove most useful if employed in nervous and mental diseases.

The Roman bather removed his garments in the mild air of the "apodyterium," and was anointed with oil and passive movements of the joints were made in the "unctuarium"; he then played at various kinds of games in the "spheristerium" until gentle perspiration began, and he then completed the sweating process in the "caldarium," with graduated seats rising to a high degree of dry heat. He was then scraped and rubbed down, and again anointed with fine oil, and then finally passed into the "tepidarium" to recline a few final moments, and cool completely before passing into the open air. There is no such perfect sequence of physiological changes for patients treated by modern balneotherapeutics.

Of the use of the ordinary forms of baths something will now be said, and a remark generally applicable is that the best time for bathing is when there is within the system the most reserved nervous energy. If strength has been spent in active exertions, or if food has not been taken for many hours, or if sleep has long been absent, it is a bad time for bathing. In most cases there is the most stored vital force after the night's rest, and as soon as the morning meal has been digested.

Cold-water baths range from 40° to 60° F., and their immediate effects are capillary contraction, increased arterial tension and cardiac action, and congestion of internal organs. If brief and followed by reaction, they are stimulant and tonic, but otherwise they are depressing. Their chief employment is in conditions of hyperpyrexia, as it sometimes occurs in certain phases of general paresis, following the status epilepticus, in puerperal mania and fever, in typhomania, and in rare instances of acute delirious mania.

The reduction of temperature by the cold bath is an heroic proceeding, to be undertaken in these cases, however, without hesitation, while carefully watching the pulse and the state of the thermometer placed in the rectum.

Cool baths vary from 60° to 75° F., and they are used to reduce temperature, or simply for the sake of the reaction, and to allay nervous irritability. Comparatively feeble patients may take them, if they are lifted immediately from the warmth of the bed to the water and returned to warm coverings after three or four minutes.

All sudden applications of cold to the surface are to be avoided in confirmed heart disease, atheromatous cerebral arteries, or advanced disease of internal organs.

Tepid baths from 80° to 95° F. are useful to allay the irritability of the sensory nerves of the skin, and to relieve the perverted peripheral sensations from which many insane patients suffer. They are one of the first means to be tried in all cases to procure sleep before resort to powerful drugs is had.

Prolonged warm baths, having a temperature from 95° to 100° F., have had an extensive trial in psychiatry. From Pinel and Esquirol down to Brierre de Boismont, Luys, and other modern French alienists, they have continued to be employed for the cure of acute cases of insanity. In Germany, too, they have been used, more especially in acute cases of sthenic mania. Their duration may vary from one to several hours, and they have even been extended for days, but with doubtful propriety, owing to an element of danger not always to be foreseen, for cases of death from syncope have been reported under these circumstances. While the patient is in the bath, cold applications are to be made to the head by wet cloths or a small stream of water.

Hot baths from 100° to 105° F. are chiefly used for their vaso-motor stimulant effects in angeioparetic conditions with subnormal temperature. They are necessarily of brief duration, and they cause capillary dilatation, increased heart's action, and hasten changes of nitrogenous tissues and elimination of urea just in proportion to the general rise of bodily heat, which, of course, accumulates much more rapidly in hot water than in hot vapor or air. They are contra-indicated in cases of weak heart or arteries, and in locomotor ataxia and other organic spinal diseases.

Graduated baths are to be reduced slowly from 98° to 60° or even 40° F. in some cases. This reduction of temperature may be effected by pieces of ice, but it is better that cold water be introduced and uniformly distributed to avoid local and sudden sensations of cold. Thermometers graduated and mounted in wooden handles for this purpose are to be had.

The graduated bath is the most acceptable and the most prompt means of reducing bodily temperature in alcoholic mania, in delirium acutum, in the status epilepticus of epileptic insanity, and in acute cases of sthenic mania.

The acutely maniacal patient with high temperature, bounding pulse, pulsating carotids, suffused conjunctivæ, and cerebral congestion, is wrapped in a sheet and lifted into the bath, and cold applications are made to the head. The water is gradually reduced to the lowest degree at the end of twenty or thirty minutes, if there has been no indication from the pulse, temperature, or respiration for the removal of the patient before that time. The graduated bath may be repeated many times with advantage during the twenty-four hours. The relief is sometimes remarkably evident from the very first bath, and some cures have been accomplished by the end of the third or fourth day of this treatment.

Wet packs have been much employed and have been spoken well of by Leidesdorf, Maudsley, and many others. The wet sheet is carefully folded about the nude patient so as to come in contact with every part of the surface, and blankets are then wrapped closely about the patient, who reclines thus covered five or ten minutes if simply reaction is desired, or five or six times as long if diaphoresis is sought. If reduction of temperature is the object to be accomplished, the pack is to be renewed every ten minutes.

This procedure is not only antipyretic but sedative, and employed in hysterical and hypochondriacal cases with extreme irritability of the cutaneous nervous system. It also favors sleep by allaying general excitability, and arresting for the time being muscular overexertion. In fact, one objection urged against it is that it is, or may be made, a most effectual means of restraint. Some patients accept this form of confinement as a medical measure, while they would strongly reject mechanical restraint, and it is of double value on this account in certain cases. Hot as well as cold packs may be used in asthenic cases of melancholia; and by restoring capillary circulation and the normal bodily temperature, much good is sometimes effected. The rubbing wet pack is the thorough friction of the patient through the wet sheet, followed by rapid drying of the surface. It is to be used where a specially prompt reaction is required. There is a form of wet pack which approaches in fact an affusion, and is indicated in puerperal mania with high temperature, and may be employed advantageously in other cases as an antipyretic measure. The patient, wrapped in a sheet covered with blankets, is placed on a corded bedstead, under which is stretched a rubber blanket to catch the water, which ranges from 65° to 75° F., and is hourly poured over and saturates the sheet. The patient may remain for hours in this pack, with warmth to extremities, if need be, and can be nourished or stimulated if necessary during the reduction of temperature, which is to be repeatedly tested in the vagina or rectum.

The actual cold affusion was formerly used in France and Germany, and Esquirol alleged cures by its use, but it is too severe a remedy except in certain cases of hyperpyrexia, in which it is one of the most powerful means for the reduction of bodily heat. Its occasional use at the present day in hysterical cases is not unfamiliar.

Shower-baths from a few seconds' to several minutes' duration are to be very cautiously employed even in vigorous patients. In stuporous states a shower of five or ten seconds daily will sometimes improve the vaso-motor and the psychical condition, and in hysterical insanity this application of water is beneficial at times. The hot shower to the lower extremities simply in dementia with impaired capillary circulation and cold feet may be used to advantage. The mechanical as well as the thermal action of the shower-bath is to be borne in mind.

Douches, tepid, hot, or cold, answer a good purpose. They may be improvised by pouring from a kettle with a spout, or by placing a vessel at a height and using rubber tubing as a siphon for withdrawing and directing the water upon the patient placed in a bath-tub or upon a rubber blanket. The stream may fall several feet, and its force and size must be carefully considered in the effect to be produced. The most susceptible points are the crown of the head, the sides of the neck, and the epigastric region. In states of mental depression and in conditions of stupor, temporary improvement of respiration and circulation may be observed after the use of a half-inch stream of hot water allowed to fall three feet upon the whole length of the spine. Also in cases from sexual and alcoholic excess the hot spinal douche is a most useful remedy as well as in choreic insanity. In this form of spinal douche the water should be as hot as can be borne, so as to conjoin the thermic and mechanical influence. Sitz-baths and foot-baths are employed for their familiar effects in insanity.

The hot foot-bath, with or without mustard, accompanied by cold to the head, is a good sleep-producing remedy in cerebral hyperæmia. Full mustard-baths with three to six ounces of mustard in from thirty to sixty gallons of water have been used by Newington in England and Ball in France. The genital organs are to be protected from the action of the mustard by covering. The favorable influence of these baths on the cutaneous circulation and in the relief of cerebral congestion is said to be decided. The physiological fact of the contraction of cerebral capillaries on the irritation of cutaneous sensory nerves was proved by Baumschiedt in experiments on animals.

Many patients are too feeble for or too much opposed to the more general applications of water above described, and more local measures are then to be used.

Thus, for the reduction of temperature, sponging of the surface with cold water or cold enemata are in order. Tepid sponging allays irritability and favors sleep, and the use of spirits in the water or of bay-rum about the head and face and neck is soothing, and may make the difference between a restful or a restless night on the part of the patient.

In some cases Chapman's ice- or hot-water bags may be used with advantage to the spine. In melancholia with subnormal temperature and wiry pulse, and cerebral anæmia from a spastic state of the cortical vessels, sleep may be procured by the hot spinal bag. In maniacal conditions with angioparesis the cold spinal bag is often useful to relieve insomnia.

Cerebral anæmia or hyperæmia, in whatever forms of insanity found, afford indications for the direct applications of heat or cold to the head.

The ice-cap and the rubber-coil cap for the continuous flow of cold water are the most practical.

It is not necessary or desirable to shave the head in women except in acute meningeal inflammation.

In typhomania, mania a potu, acute stages of general paresis, and puerperal mania, this local abstraction of heat may be continued with good results for hours or days together. Other useful local applications are hot stupes to the epigastrium to promote sleep, or hot flannels to the feet and legs and cold wet cloths to the head for the same purpose.

In the high temperature of paretics after epileptoid seizures, frictions with ice are most efficient.

Finally, the use of salt water calls for a few remarks. For feeble patients with dementia and melancholia local frictions with cloths moistened in a solution of bay-salt are good cutaneous stimulants. For those that are strong enough, warm brine baths (five pounds of rock-salt to fifty gallons of water) may be employed to stimulate the peripheral nerves and the general circulation. Sea-bathing is an excellent means of procuring a lively reaction in strong patients. Surf-bathing especially is powerful for good or evil. The impact of the waves is a species of rough massage which is as depressing in the feeble as it is exhilarating in the robust. A patient with hypochondriacal insanity, whose insomnia resisted all the usual drugs, only slept soundly after an hour's rough surf-bathing; and if sea baths were more available they would doubtless prove of decided benefit in many cases of insanity.

To sum up the conclusions of this paper briefly, it may be said that the indications of hydrotherapy in mental diseases are to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis and the elimination of certain substances through the skin, to hasten tissue changes and to improve general nutrition, to allay irritability of peripheral nerves, to procure sleep and relieve cerebral anæmia and hyperæmia, and in a measure to take the place of drugs.

Balneotherapeutics in insanity is admittedly only employed empirically as yet, but it is becoming a more exact science, and indispensable in the treatment of mental diseases, and it deserves a much more extended employment than has yet been accorded it in this country.

It is hoped that this paper may excite some further interest in this subject.

48 West Thirty-sixth Street.

THE USE OF HOT WATER IN SURGERY.*

By THEODORE R. VARICK, M. D.,

MEDICAL DIRECTOR AND SURGEON TO ST. FRANCIS'S HOSPITAL, AND SURGEON TO THE JERSEY CITY HOSPITAL, JERSEY CITY, N. J.

The use of hot water in surgery is the subject to which I purpose calling your attention on this occasion.

In a paper read by me before the surgical section of the American Medical Association at its meeting in Washington in May, 1884, on "Railroad Injuries of the Extremities of the Human Body," etc., I considered the hæmostatic effects of hot water when applied to the abraded surface of operation wounds. (See "Journal of the American Medical Association," vol. iii, p. 372.)

In a paper also presented by me, on the "Protective Treatment of Open Wounds," before the New York County Medical Association in February, 1885, the principles involved in the method of treatment of wounds by *hot water* were more fully discussed, and the results of experiments demonstrating the protective power of a film of coagulated albumin were shown, absolutely preventing the ingress of atmospheric germs; and being composed of autogenous material, there was no possibility of any toxic effect on the part of the agent employed, as against the many recorded instances of poisoning by the use of carbolic acid and corrosive sublimate.

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* Read before the New York State Medical Association, September 27, 1887.

It is now my intention, after over two years' further experience, to consider the results obtained, and to answer sundry criticisms, undoubtedly due to a total misunderstanding of the principles involved in the method and mode of application of the remedy.

Since the commencement of the practice under consideration in August, 1879, in many operations, both capital and minor, in hospital as well as in private practice, and frequently with the most unhygienic surroundings, there has been observed, except in one case, an absolute exemption from sepsis in any form. This case will be considered further on.

The method of treatment of operation wounds by hot water is based upon the following propositions:

1. After the larger vessels have been tied in an operation wound there occurs an outward flow from the divided arterioles, venules, and lymph-spaces of a sero-sanguineous fluid, highly albuminous in its character, in varying quantity, and continuing for a longer or shorter period.

2. As long as this outward flow continues there is a perfect immunity from infection by atmospheric germs.

3. The application of hot water checks this outward flow, coagulates the albuminous elements in the fluid, and forms an impenetrable shield over the surface of the wound.

4. Hot water applied to the abraded surface acts as a powerful cardiac stimulant and controls shock.

In order to test the temperature necessary to produce coagulation of albumin contained in serum, the following experiment was made:

A test-tube was partly filled with serum, and a thermometer so arranged that the bulb was immersed beneath the surface of the fluid. The test-tube was immersed in water and heat applied. At 68° C. (= 154° F.) the serum, at first bright red, became darker and partially coagulated, and at 70° C. (= 158° F.) it assumed a grayish, muddy appearance, and was completely coagulated. It was observed that the temperature of the water in which the test-tube was immersed exceeded that of the contents of the test-tube by about 14° C., or 57° F. In the first instance the hot water employed stood at 179·6° F., and in the latter at 183·2° F. Or, in other words, it is necessary that the water should have a temperature of not less than 183° F. in order that firm coagulation may result. At 200° F. to 212° F. it will blister if applied to the skin, and, if a sufficiently prolonged application is made, will *cook* the abraded surface, or, in other words, coagulate the albuminous elements in the superficial capillaries, and still further increase the protective power afforded by the method.

I am in the habit of using water slightly below the boiling point, or at the only diminution of temperature it would suffer during the time occupied in transit from the fire to the operating-room.

It seems to me evident that, owing to the greater vitality of the deeper seated muscular tissues, they possess much greater powers of resistance to the effect of heat than the skin. In making the application, this fact should be recognized, and care taken to prevent the water running beyond the abraded surface and blistering the surrounding integument, as I have seen occur in several instances owing to carelessness of the one making the application. *The application should be continued until* ALL OOZING *is stopped, the parts are thoroughly* GLAZED, *and the red hue of the tissues is decidedly deadened.*

The secretions which take place from operation wounds treated by this method are usually of a clear or slightly opaque serum, and which, after thirty-six or forty-eight hours, may contain flocculi of coagulated albumin in a greater or less quantity, governed by the intensity of the application and the amount of the previous oozing. This appearance of albuminous flocculi is more especially observed in cases in which the wound is closed and treated by through-drainage. In open wounds the albuminous deposit is more appreciable to the eye, resembling in some cases the exudation of diphtheria. This exudation in the course of a few days is thrown off, leaving a healthy granulating surface beneath.

The immunity from septic absorption which is afforded to patients who may have undergone capital operations under the most unsanitary surroundings is well illustrated by the case of Thomas G., who was admitted to the Jersey City Hospital, July 18, 1883, for lacerated wound of the foot, and who underwent amputation of the leg at its lower third, and that of Adam H., who was admitted to the same hospital, July 23, 1883, for compound comminuted fracture of the leg, followed by amputation of the thigh at the lower third. Both were the result of railroad injuries. G. and H. were both discharged, cured, September 3, 1883.

The point of interest lies in the fact that there were in the hospital at the time, in the same ward, several cases of erysipelas and a large number of chronic abscesses, and in the female wards immediately overhead four cases of puerperal fever. At no time during the progress of treatment was there observed the slightest untoward symptom. As a promoter of reaction, cases are constantly occurring which illustrate the power of hot water as a cardiac stimulant when applied to the abraded surface of an operation wound.

In a case of hysterectomy performed by Dr. Nathan Bozeman, in which the symptoms of shock were urgent, I injected into the peritoneal cavity water at 120° F., with an immediate arrest of collapse, and rapid and complete reaction.

In a case of suppurative peritonitis due to perforation of the appendix vermiformis, for which I performed laparotomy in June, 1886, I injected water at the same temperature as in the preceding case, thoroughly washing out the cavity of the abscess. The patient recovered, although he was bordering on collapse at the time of the operation.

In the "Medical Record," March 19, 1887, Dr. W. Gill Wylie reports a case of laparotomy in which he used water at 105° to 110° F. for the relief of shock and arrest of hæmorrhage, with immediate relief of the symptoms. After describing the operation, he uses the following language: "I noticed that not only was the bleeding checked by the hot water, but the indications of shock, which were present to an alarming extent—that is, feeble heart's action, cold perspiration, etc.—were at once relieved by the hot water. . . . The result was magical. After this the symptoms of shock did not return, and at no time was there a subnormal temperature."

These statements of Dr. Gill Wylie are, I believe, absolutely true, as I have during the past eight years demonstrated time and time again; in fact, so frequently as to lose all novelty to those who are in the habit of witnessing operations in St. Francis Hospital.

When, however, the astonishing discovery is made, in 1887, that hot water will arrest oozing, and that hot water will promote reaction and relieve shock, we are forced to the conclusion that a portion of the medical periodical literature of the day has been overlooked by the gentleman. I can not bring myself to believe that he would intentionally claim as his own a procedure in the treatment of operation wounds which I, on two occasions—viz., in the "Journal of the American Medical Association" in 1884, and also in the "New York Medical Journal" in 1885—announced to the surgical profession, and which I have continuously practiced since 1879. He has no more claim to priority in the method of treatment of wounds by hot water than he has to the invention of Corning's method of using cocaine, or to Sims's dilator.

The restorative powers exerted by hot water on the general circulation are also, to as great an extent, manifested on the local circulation of a part whose vitality is to a certain extent damaged by contused or contuso-lacerated wounds, as of the extremities, such as we often meet with in hospital practice among the employees of the numerous railroads which have their termini in our midst. Poiseuille has shown in his experiments on the web of a frog's foot that, if the part be covered with water at 104° F., the rapidity of the current in the capillaries is so much increased that we can hardly distinguish the form of the corpuscles. These injuries are usually sustained by the coupling of cars, and exhibit every variety of severity from simple rupture of the skin, with subcutaneous extravasation of blood, to a general crushing of the whole part into a homogeneous mass, for which the only remedy is amputation. For the treatment of every degree of injury except the last mentioned the limb is placed in a water-bath as hot as can be borne, and retained for a half-hour at a time. These baths are repeated three or four times a day. The part injured, during the interval, is wrapped in oakum wrung out of hot water, and covered with oiled silk. By this method many a limb has been saved which seemed damaged beyond recovery.

There seems to be a lack of appreciation on the part of some who have criticised and profess to have practiced the method under consideration. The late Professor Frank H. Hamilton, in a very able article on "The Art of Primary Union by Adhesion," published in the "Medical Record," January 2, 1886, says: "Dr. Varick recommends that the water have a temperature slightly below the boiling point; this might do if one were to apply it by means of a sponge, and then only for an instant. . . . But if employed continuously or by irrigation through the nozzle of a tube, it ought not to exceed in temperature 112° or 115° F., or a temperature which may be easily borne by the hand." Dr. Hamilton evidently failed to appreciate the mode and object of the application advocated by me.

The application is always made with a clean sponge or sheet lint, and is kept in contact with the part for several minutes, or frequently renewed applications are made, until the changed appearance of the parts is observed as previously described.

Again, the object of a high temperature for the coagulation of the albuminous exudate on the surface of the wound is not recognized. The temporary glazing which occurs over the surface of a wound, as the oozing gradually and spontaneously ceases, must not be confounded with, nor considered as identical with, that produced by the application of hot water.

The glazing first named is nothing more than the result of coagulation of the sanguineous flow, having a surface of serum with an underlying clot, and due to fibrinous contraction and a process of desiccation. It is highly putrescible and easily washed away. As albumin at the temperature of the body is fluid, it possesses no protective power and partakes of the same liability to putrefaction as the other elements of the exudate. Hot water applied deprives it of its putrescible property, and it will exist unchanged for an indefinite period. I have kept a film of coagulated albumin, applied to a piece of fine linen, unchanged for a period of over four months, while the beef-tea, for which the albuminized linen was used as a cover, remained absolutely unchanged for a like period.

Before I used hot water, and used warm water instead, the effect invariably was to increase the outward flow, to keep patent the divided capillaries, and prevent the glazing of the parts; and many cases of sepsis followed. It seemed that the danger of contamination of the wound was enhanced by this method.

An amusing instance of failure to comprehend the principles involved in the subject under discussion occurred recently in a hospital not a thousand miles from New York. A surgeon, having occasion to perform an amputation at the lower part of the leg, and after ligating the vessels, was annoyed by a somewhat free oozing which he was unable to control. A gentleman present, who had on several occasions witnessed the hæmostatic effect of hot water in St. Francis and Jersey City Hospitals, suggested its use in this case. The hot water was brought and cold water added until it could be easily borne by the hand, then by means of a sponge it was applied for a moment several times. This proving ineffectual, the sponge, now saturated with water scarcely more than blood-warm, was held at a distance above the wound and the water allowed to trickle over the surface. It is needless to say this also failed. The verdict of the sapient operator was that "hot water is no good."

It would be impossible, even if it were desirable, to occupy the time of this assemblage with an enumeration of the various operations to which this method is applicable, and in which it is being constantly resorted to. I shall therefore content myself with a detail of major amputations performed by me since 1879, with a comparison of results obtained by me with that of others collected from statistics furnished by various authors in this country and Europe.

In the "International Encyclopædia of Surgery," vol. i, p. 626, in a table showing the comparative mortality of amputations for injury and disease, we find the following percentage of mortality for major amputations by the authors enumerated:

	Cases.	Mortality. Per cent.
Malgaigne	560	53·3
Trélat	1,038	47·5
Golding Bird	859	31·8
Callender	358	20·6
Butlin and McCready	416	18
Holmes	500	31·6
Spencer	557	26·9
Chadwick	692	26
Gorman	296	36·4
Varick	90	44·4
Norris and Morton	982	25
Ashhurst	100	·28
Total cases	6,448	
Mortality		32·9

In the London "Lancet," April 9, 1887, we find at page 720 a paper entitled "The Result of Major Amputations treated Antiseptically in the Newcastle-on-Tyne Infirmary from April 1, 1878, to December 31, 1886," by Mr. Frederick Page, as follows: Three hundred and eighty-two major amputations, with a mortality of 7·5.

At the University College Hospital, up to May, 1871, of 307 consecutive major amputations 79 proved fatal—a mortality of nearly 25 per cent.

Of 53 consecutive major amputations performed by me and treated with hot water, I report 39 primary cases with 2 deaths, and 14 secondary cases with 1 death.

	Cases.	Recovered.	Died.
Primary Cases.			
Thigh	18	17	1
Leg	6	6	..
Arm	6	6	..
Shoulder joint	2	2	..
Right forearm, left thigh, with C. and L. wound of right foot	1	..	1
Secondary Cases.			
Thigh	7	7	..
Leg	3	3	..
Arm	1	..	1
Hip joint	1	1	..
Forearm	2	2	..
Total	53	50	3

Mortality, 5·6 per cent.

The fatal cases were as follows:

1. Fred. H., admitted to Jersey City Hospital, August 13, 1882, for compound comminuted fracture of the leg, for which amputation of the thigh at its lower third was done. There were several attacks of secondary hæmorrhage, and, although the femoral artery was ligated in Scarpa's space, he died of a sudden hæmorrhage on the 26th of the same month.

2. Cornelius P., a private patient, suffered amputation of the arm on account of caries of the elbow joint. He progressed favorably from the time of operation, September 2, 1884, up to September 8th, when he died of a sudden attack of angina pectoris.

3. Noah R., admitted to St. Francis's Hospital, Jersey City, October 26, 1886, having sustained a compound comminuted fracture of the right forearm, a complicated, compound comminuted fracture of the left leg, and a contused and lacerated wound of the right foot. Amputation of the right arm and left thigh was done, and the remaining foot dressed with iodoform. He bore the operation well, and progressed favorably until November 1st, when symptoms of septicæmia developed, and he died November 7th, on the eleventh day after the injury. The operation wounds had united to nearly their whole extent by first intention, but the remaining foot had sloughed extensively, and was no doubt the source of his septic infection.

The case of P. might with propriety be excluded from the list of unsuccessful cases, as he died of a disease totally unconnected with the amputation, and which he had suffered from on several occasions previously. Excluding this case, the rate of mortality would be reduced to 3·7.

Of the 53 cases recorded above, 44 were performed on account of railroad injuries. Thirty-four of the 53 cases reported by me occurred in St. Francis's Hospital, Jersey City, from August 12, 1879, to August 1, 1887, with the following result:

HOT-WATER METHOD.

	Cases.	Recovered.	Died.
Thighs	16	16	..
Legs	4	4	..
Arms	5	5	..
Forearms	6	6	..
Hip joint	1	1	..
Shoulder joint	1	1	..
Right arm and left thigh	1	..	1
Total	34	33	1

Mortality, 2·9 + per cent.

During the same period, in the same hospital, in the same wards, and with the same hygienic surroundings, there were done 25 major amputations under Lister's method, with the following result:

LISTER'S METHOD.

	Cases.	Recovered.	Died.
Thighs	10	6	4
Legs	3	3	..
Arms	7	6	1
Forearms	2	2	..
Shoulder joint	1	..	1
Both legs	2	1	1
Total	25	18	7

Mortality, 28 per cent.

Enough has been said to illustrate the therapeutic effects of hot water in surgical practice. It has stood the test of time and experience, and fulfilled every claim made for it. The results obtained in major operations under its use are unexcelled by any other method of antisepsis, while in the matter of major amputations it is unqualed. Simplicity and convenience are its characteristics.

The baseless fear of using water too hot may have deterred some from using the method, while others again look with disdain at the lack of display of the paraphernalia employed, the homespun nature of the appliances used, and there is absent that foreign glamour which to some presents an irresistible fascination. In it the gauze, protective, and carbolic spray find substitutes in a wad of oakum and grandmother's tea-kettle.

Since the preceding paper was written I have received the following letter from my friend, Dr. J. D. McGill, Surgeon-General of New Jersey, and one of the surgeons to St. Francis's and Jersey City Hospitals:

Dr. T. R. Varick.

Dear Doctor: Inclosed you will find a record of eighteen capital amputations which have occurred in my practice during the last four or five years.

Six of these amputations were performed and subsequently treated according to Lister's method; the remaining twelve (all amputations performed by me since March, 1885) were treated at the time of operation with hot water, after the method advised by yourself.

The subsequent treatment of these twelve cases has been to observe absolute cleanliness, and to insure perfect drainage.

The iodoform dressing has been the one employed.

Lister Method.

SITE OF OPERATION.	No. of cases.	Primary.	Secondary.	Recovered.	Died.
Thigh	1	1	..	1	..
Arm	2	2	..	1	1
Forearm	1	1	..	1	..
Leg	2	2	..	1	1
Total	6	6	..	4	2

The deaths were in both cases due to septicæmia.

Varick Method.

SITE OF OPERATION.	No. of cases.	Primary.	Secondary.	Recovered.	Died.
Thigh	3	2	1	3	..
Leg	4	4	..	4	..
Foot (Pirogoff's operation)	1	..	1	1	..
Arm	2	1	1	2	..
Forearm	2	2	..	2	..
Total	12	9	3	12	..

Yours respectfully,
J. D. McGill.

DOUBLE STRICTURE OF THE RECTUM,
CAUSED BY PLASTIC EXUDATION IN THE PELVIS.
AUTOPSY.[*]

By CHARLES B. KELSEY, M. D.

The specimen presented this evening is one illustrating exceedingly well one point in the pathology and many in the treatment of rectal stricture. The case was referred to by me at a meeting of this society nearly three years ago, shortly after it first came under my management;[†] and it is with great satisfaction that I am enabled now to follow out the history to its termination.

The patient was a widow, fifty years of age, who was first seen by me in December, 1884. She described an attack of pelvic peritonitis four years before, which had nearly cost her her life, and to which she correctly ascribed all her subsequent trouble. She had never been free from pelvic and rectal pain since the attack, and had experienced a steadily increasing trouble in defecation ever since. About a year and a half before she first came to me, bloody passages and the usual diarrhœa due to stricture began, and it had never ceased. The patient was anæmic, emaciated, and in bad general condition, besides suffering from chronic intestinal obstruction.

An examination revealed a mass of cartilaginous firmness, connected with the uterus behind, and completely blocking the rectum by pressure against the sacrum. The finger entered the bowel two inches, and beyond this point nothing could be passed larger than a hard-rubber male catheter. It was impossible to tell what length of the rectum was occluded by the mass, except as the sensation of wall like resistance led one to suppose that the disease must be of considerable extent, and filling nearly the entire pelvis.

The patient was under my constant observation until her death, a few weeks less than two years from her first visit; and, colotomy being declined from the first, the time was passed in a prolonged struggle to prevent, as long as possible, her death from intestinal occlusion. Dilatation with bougies at first worked very favorably. Commencing with a large-sized catheter, in a few weeks a stomach-tube could be passed, and at the end of four months a No. 8 flexible rectal bougie. Beyond this point the rectum was absolutely undilatable, and the expression is used literally, for again and again I introduced the end of my index-finger into the stricture, and, boring with all my strength, could make no more impression than upon a piece of wood. Another fact which became almost certain as frequent passages of the bougie were made was that we had to deal with a second obstruction a short distance above the first; for, though a No. 8 bougie often passed through the first contraction, it never went on up the bowel more than an inch or so.

The patient was much troubled with discharges of blood and matter, and, as there was no ulceration of the rectum below the obstruction, I supposed there must be above, as is so generally the case. In this I was mistaken, as the specimen will show.

For about eighteen months there was little or no change in the patient's condition, but at the end of that time the urine became albuminous, and she rapidly lost strength, though the rectum still remained pervious to the bougie, which was passed at least once a week, and generally twice.

A few months later I was sent for to her house and found her suffering from complete obstruction of seven days' duration. She had not been under my personal care for a few weeks, and, on account of her feeble condition and the heart and kidney complications, the use of the bougie had been omitted with this result. The obstruction was attended by all the usual signs—great distension and visible coils of intestine, much rumbling of gas, and vomiting, with the pulse at 120.

With this condition we struggled from August 25th to September 7th. The treatment was at first by opium and tapping, but the opium was badly borne, the respirations rapidly falling to seven with small doses, and showing a decided tendency not to come up again. After a day or two of this the treatment was changed to gentle laxatives, and, after a few trials on successive days, I again succeeded in forcing a No. 8 bougie through the first obstruction, where it became plugged with fæces, and up to the second, but more than six inches of the tube could not be introduced without more force than I dared use; and water injected through the bougie when at this distance was immediately expelled. From August 25th to August 31st very little had been accomplished by treatment, except that she had been fairly nourished with enemata of peptonized milk, and the great distension had been somewhat controlled by frequent tappings, which gave escape to large quantities of gas. She was, however, in much the same condition as when the treatment began—pulse 120, urine in fair quantity and albuminous, vomiting, and occasional passages of a drachm or so of bloody mucous.

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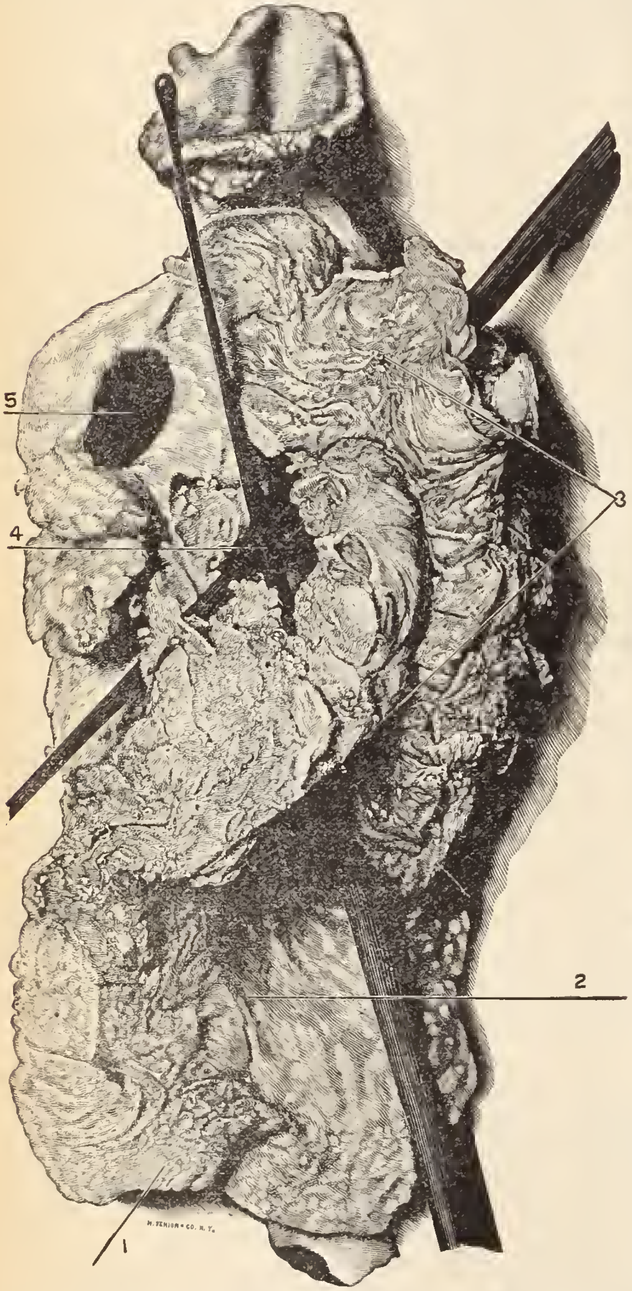
[*] Read before the New York Clinical Society, September 23, 1887.

[†] "N. Y. Med. Jour.," Feb. 14, 1885.

On August 31st I decided that the only chance of success lay in full doses of opium, in spite of their not being well borne, and the treatment by this means alone was begun a second time. Morphine was used in doses of one sixth of a grain, and in a very few hours the patient was in a condition which I have never before seen. The respirations were five to the minute, and remained so, except when the patient was aroused, for two days and nights. Except when roused, she lay in a perfectly tranquil sleep, breathing occasionally with a deep sighing respiration, followed by one or two lighter ones, and never going over five to the minute. She was, however, easily roused when spoken to (the only thing which gave me courage to continue the drug), and at such times the respirations came up to fifteen and twenty, to immediately fall again when left undisturbed. She was, of course, constantly watched, and, considering that we were dealing with uræmia as well as obstruction, I continued the morphine, not according to the frequency of respiration, but guided solely by the ease with which she could be aroused. The doses of morphine, it should be said, were not at all large for such circumstances. No record of the actual amount was kept, but it was a decided feature of the case that a respiration of five should be maintained with the amounts administered.



1. Anus. 2. Rectum. 3. Stricture laid open. 4. Abscess cavity communicating with rectum by perforations above and below stricture, as shown by the probes. 5. A small ovarian cyst.

At the end of twenty-four hours of this treatment the patient had two large, solid evacuations, the first in fourteen days. The morphine was steadily continued for a week longer, with occasional tappings, when she had three more copious passages, the distension disappeared, and the obstruction was relieved. This was on September 7th. On September 28th she died with uræmic convulsions, the bowels having been very loose, but somewhat distended with gas, up to death.

Autopsy six hours after death.—Kidneys small and contracted. Other abdominal and thoracic organs healthy. Moderate distension of large intestine with gas, but no fæcal matter. The point of greatest distension during life, and the one at which the tapping had always been done, was found to be the transverse colon, misplaced so as to run vertically on the right side parallel with the ascending colon.

Pelvic contents matted together, and firmly adherent to the sacrum and coccyx, from which they were removed with great difficulty and in one mass, shown in the specimen.

The anterior surface of the uterus and the bladder were free from any exudation, but both ovaries and broad ligaments, the rectum, and Douglas's pouch, were solidly imbedded, and all cemented firmly to the sacrum and coccyx. Both ovaries were cystic. In the space between the uterus and rectum there was an abscess cavity filled with black, sloughy tissue, the existence of which had not been suspected during life. This at some time had opened into the bowel both above and below the stricture, and accounted for the discharges of blood and pus of which the patient complained. The walls of the abscess were thin, and were ruptured by slight pressure during the removal of the specimen.

About an inch and a half above the first stricture there was a second, caused by a distinct band which had twisted the bowel on itself, and bound it firmly down to the top of the sacrum. Here there was no mass of exudation around the gut, and any undue force with a bougie would certainly have resulted in perforation.

The points of interest in the case are briefly these:

1. The effects which may result from plastic exudation in the pelvis.

2. The unsuspected presence of an abscess.

3. The absence of any changes of an ulcerative character in the bowel either above or below the stricture.

4. The possibility of preventing intestinal obstruction for so long a time with the parts in such a condition.

5. The effects of the morphine treatment in relieving the obstruction which finally occurred.

6. The fact that, although an eminently proper subject for colotomy, the patient was kept alive for two years from the first obstruction without it, and that death was finally due not to obstruction, but to the kidneys.

Correspondence.

LETTER FROM VIENNA.

Meynert on the Nervous and Psychical Disturbances produced by Overstrain in Schools.—Nothnagel on the Treatment of Diseases of the Heart.—A Night Medical Service in Vienna.—The Vienna Medical Faculty.—The International Health Congress.

Vienna, *September 14, 1887.*

Hofrath Professor Meynert has recently made an important communication on the nervous and mental disturbances observed in young people as the result of overstrain in the schools, especially in the so-called *Mittelschulen*, such as the *Gymnasien*, the *Realschulen*, and the *Handelsschulen*. He first referred to the observations that he had made among the great number of patients at his clinic in the General Hospital. During the decade 1876 to 1885 the number of patients admitted into the psychiatric clinic was 8,809, and out of them Meynert selected the male patients between the ages of ten and twenty-five years, the period of life in which diseases due to overstrain in schools ought to break out, and they numbered 596. Of the young persons affected with mental diseases, 68 were schoolboys or pupils in other educational institutions. The pupils of the so-called *Volksschulen*, who belong to the poor classes of the population and who are engaged in other work than that at school, were not taken into account by the author, as overstrain of another kind, as well as misery, might have exerted an influence that would be a disturbing element in the investigation. The patients were divided into three classes, according to age: those between ten and fifteen, those between fifteen and twenty, and those between twenty and twenty-five. All those of the first class, except an epileptic who was a pupil in an institution for the deaf and dumb, belonged to the *Volksschulen*. In the second class there were seventeen individuals, including eight pupils of the *Gymnasien*—one affected with epilepsy, two with acute psychical disturbance of a curable form, two with acute mental disturbance with primary idiocy (the so-called hebephrenia, presumably incurable), one with primary madness, one with mania, and one with secondary psychical disturbance. Three pupils of the *Realschule* were affected with acute insanity. Out of the three pupils of the commercial school, one suffered with acute insanity and one with chronic alcoholism, and one, without having shown pronounced psychical disturbance, had tried to commit suicide. A law student was suffering with mania. In the third class there were fifteen persons. Among these, a pupil of the *Realschule* had primary madness *(originäre Verrücktheit)*; a commercial-school pupil had acute insanity with stupor; out ot two pupils of the agricultural school, one had epileptoid attacks; out of two pupils of the technical school, one had chronic alcoholism and one had acute madness; of two students of philosophy, one had primary madness and one had acute insanity; of three law students, one was a hypochondriac with insanity and two had epileptoid attacks, complicated in one of them with tonic spasms; and of three medical students, one had acute insanity and two had tried to commit suicide. In only three persons of the second class could it properly be held that overstudy and night work were the only possible causes of the mental disturbance—two from the *Realschule* and one from the *Gymnasium*.

Differing with Hasse, Meynert pointed out at length that overstrain at school was often the only cause of mental disease in the young, and he stated that the greatest number of such affections was not found among those who were admitted into lunatic asylums, but in the sufferers with the various forms of neurasthenia that gave rise to such morbid sensations as dread of walking in the street, of social intercourse, of intellectual or bodily occupation, etc. Among the other results of overstrain was sexual excitation, manifested by "pollutions," and the like, due to congestion of the abdominal organs resulting from sedentary occupation. It was not in the young alone that the injurious effects of scholastic overstrain were to be observed; they were manifested in advanced age by a special disposition to mental diseases. The psychical affections peculiar to the age of puberty (hebephreniæ) were very dangerous, as they had a tendency to be complicated with idiocy and with stupor. These facts ought to be impressed upon the minds of parents and school managers. As to the universities, their students were more independent, but it would be a great error if the Austrian authorities were to decide to add a ninth year to the *Gymnasium* course. I may add that Professor Meynert's communication, of which I have given only the chief features, forms one of the reports of the committee appointed by the Section in Hygiene of the *medicinisches Doctoren-Collegium* to study the subject.

In a recent clinical lecture, Professor Nothnagel spoke of certain drugs recommended as substitutes for digitalis in cardiac affections. The action of *Convallaria maialis*, he said, was of little importance. *Adonis vernalis* had hardly any effect when given in small doses, and even in daily amounts of from fifteen to forty-five grains it often proved inefficient. It was proper, however, to try one of these drugs when digitalis was ineffectual. The use of adonis should be begun in doses of from forty-five to eighty grains a day, but not more than a hundred and five grains a day should be given. In Dr. Voigt's trials, at the speaker's clinic, the effects of sparteine had not been very decided; it conduced to regularity of the heart's action, but it was far inferior to digitalis in producing diuresis and in influencing the blood-pressure. In cases of arrhythmia, when digitalis ceased to produce its effect, sparteine might be tried, in doses of a few hundredths of a grain. As to caffeine, it was a very efficacious drug, but, to obtain good results with it, not less than fifteen grains a day should be given; he ordered it in doses of three grains daily for five days, and, if that was not sufficient, he prescribed from eight to thirty grains a day, and sometimes he had given forty-five grains in a day. The best preparations of caffeine were the double salts, such as the salicylate of caffeine and sodium, etc. The drug had a special diuretic effect, and was particularly indicated in cases of dropsy; its sole inconvenient property was its exciting action on the nervous system. It might with advantage be given in conjunction with digitalis, the latter being given for five or six days, and then caffeine for ten or twelve days more. Yendrassik, of Budapest, had recently directed attention to the diuretic action of calomel; from nine to twelve grains being given daily, a considerable diuresis was observed after some days. In case the calomel had no effect, Yendrassik recommended the use of jalap in addition. In the speaker's opinion, however, it was better to combine it with opium, and some precautions were to be observed in its administration. Care must be taken to keep up a due action of the bowels; otherwise the calomel might become deposited in the intestine, and, being transformed into corrosive sublimate, attack the intestinal wall. Attention should also be paid to the prevention of stomatitis. In cases in which calomel had been given for three or four days without success, the speaker suspended its administration for six or eight days, and then began with it again. Alluding to Oertel's treatment, which, as is well known, has been used for obesity as well as heart disease, the speaker said that, where compensation had been established and there was as yet no degeneration of the muscular structure of the heart, he regarded the method as superfluous and even as inadmissible, as every kind of excitement should be avoided in this stage of heart disease. It was available only in cases of a high degree of insufficiency of the cardiac muscle. In valvular affections, hypertrophy of the heart was produced by mechanical causes, and went so far as to compensate for the causes of circulatory disturbance; but it would not exceed a certain degree—a muscle thus hypertrophied soon underwent a degenerative process, and another stimulant was required to produce a new hypertrophy. It was under such circumstances that Oertel's method, playing the part of a stimulant, proved successful, but its action should be carefully watched.

With the view to the establishment of a night medical service in Vienna, the *Polizeipräsidium* has made the following propositions: 1. In each district, one or more public buildings are to be designated as places at which physicians are to be on duty steadily at night. 2. Each of these places is to be made known to the whole population. 3. The physician's aid may be summoned personally, by the police telegraph, or by telephone. 4. The physician is entitled to receive a fee for each night visit, the amount of which is to be fixed by the municipality. 5. Each physician is to be provided with a coupon-book, and, when he makes a visit, he is to present the proper coupon to the family; the latter may either pay him at once or acknowledge the service by signing the coupon. 6. At certain stated times, the physician is to present the unpaid coupons to the municipality, which will pay him his fees, and then either collect from the families, or, if they are unable to pay, charge the amounts to the poor-fund. 7. For every night spent by the physician at the station without his services being called for he is to receive a fee, also to be fixed by the municipality. 8. Each physician must keep a book record of the cases to which he has been called, to be presented to the *Stadtphysicat* at certain stated times. 9. Any physician may announce by means of a lantern, the form of which is to be determined by the *Magistrat*, that he is willing to take part in the service.

According to the official catalogue of the University of Vienna, for the winter semester 1887–'88, the number of students is 5,456, of whom 2,668 (2,178 ordinary and 490 extraordinary) are in the medical department. Of the 337 foreigners, there are 66 Americans, 50 Russians, 28 from the German Empire, 74 Roumanians, and 82 Servians. During the next session, twenty ordinary professors, thirty-six extraordinary professors, and seventy-five *Docenten* will give two hundred and four lectures, together with practical courses, demonstrations, etc. Three lectures, by three different professors, will be given on the history of medicine, six on anatomy, twelve on physiology, eighteen on general pathology, pathological anatomy, histology, pharmacology, and pharmacognosy, forty-six on internal medicine, thirty-two on surgery, five on otology, seventeen on ophthalmology, twenty-eight on gynæcology and pædiatrics, seventeen on dermatology and syphilis, six on psychiatry, six on hygiene, and six on medical chemistry.

Sixteen hundred members have already announced their intention of taking part in the International Health Congress at Vienna, among whom are a hundred and ten delegates from European nations and America. The patron of the congress, the Crown Prince Rudolphus, will open the sessions on the 26th inst., in the name of the Emperor. On the evening of the 28th the Hereditary Prince will receive the foreign delegates at the Imperial Court, also in the name of the Emperor. Besides a festival representation at the *Hofoper*, several excursions to the Kahlenberg, Semmering, Budapest, Abbazzia, etc., have been planned by the committee.

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EPILEPSY OF CARDIAC ORIGIN.

Anything that tends to throw light upon the pathology of the nervous phenomena commonly known as epilepsy can not fail to be of interest. Within the past few years various factors, many of which have not stood the test of time, have been credited with the power of evoking that condition, but in a recent number of the "Revue de médecine" M. Lemoine adduces evidence worthy of consideration, which goes to show that certain affections of the heart may produce epilepsy. It may be supposed that the *modus operandi* is by means of a disturbance of the cerebral circulation, the agency of which in calling forth epileptic seizures has been pointed out by several authors. M. Lemoine's attention was first attracted to the likelihood of cardiac disease having this effect by the peculiar features of a case that came under his observation, the history of which, along with those of two others, he relates in full. The patient was thirty-nine years of age, and belonged to a family singularly free from neuroses. He himself had never had syphilis, had never been addicted to alcohol, and had never received a blow on the head. Up to his twentieth year he had enjoyed robust health. From that time on he began to suffer, especially in the summer, with rheumatic pains in several of the joints, but had never had acute rheumatism. After a time he began to experience dyspnœa on exertion, and palpitation even while at rest. His first attack of epilepsy occurred in his thirty-second year, and was apparently evoked by a powerful emotion. He now became subject also to attacks of vertigo, which were brought about by a sudden noise or a vivid emotion; they would come on when he assumed the horizontal posture, and were attended with palpitation and cardiac oppression. Supporting his head in an elevated position by means of two pillows caused these symptoms to disappear. A physical examination of the chest revealed the existence of regurgitation and stenosis of the mitral valves. The attacks of epilepsy, as well as those of vertigo, were held in check by the administration of digitalis and caffeine. The second case was that of a man, thirty-five years of age, who was entirely free from any hereditary taint. At the age of ten years he had an attack of acute rheumatism, during which he had pain in the cardiac region and oppression of breathing. In his thirteenth year he had his first attack of epilepsy, and after that he had frequent attacks, which were always preceded by palpitation and difficulty of breathing. He had insufficiency and stenosis of the mitral valves. A systematic course of treatment, probably with bromide of potassium, in an institution had resulted in no benefit, and the attacks were occurring daily. When he first came under M. Lemoine's care, digitalis was administered, and from the very first the attacks ceased, and did not return while he was under observation, a period of four months. The third case was one of aortic insufficiency with very severe attacks of epilepsy, attended with some mental derangement. There was very decided and rapid amelioration following the use of caffeine.

If one may generalize from so few observations, the form of epilepsy dependent on cardiac trouble differs from the classical form. In one of M. Lemoine's cases the period of rigidity was of short duration, and was not followed by convulsions. In another of his cases, although the attacks were regular, they were unattended with cyanosis of the face, and the clonic spasms followed quickly upon the rigidity, which lasted only for a short time. All the cases had certain characters in common; the attacks were always preceded by an aura originating in the cardiac region, by palpitation, by præcordial anxiety, and by a sensation as of a rush of blood to the head. It is of practical interest to note the benefit which resulted in each case from the use of digitalis and caffeine after bromide of potassium had either failed or effected only an insignificant amelioration.

MINOR PARAGRAPHS.

THE FRENCH EDITION OF EMMET'S "GYNÆCOLOGY."

It is gratifying to observe the appreciation of Dr. Emmet's teaching shown in a review, by Dr. F. Verchère, of the French translation of his "Gynæcology," published in a recent issue of one of the best of the French journals, the "Revue de chirurgie." It is particularly satisfactory that the reviewer estimates Dr. Emmet's carefulness and conscientiousness at their true worth, for it is to those features, we are convinced, that his teaching and example owe their greatest value.

THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

We would call the attention of the alumni of the college to the announcement which will be found in our advertising columns, stating the conditions on which the next prize is to be awarded for an essay. This prize is among the most honorable of its class, and the conditions are very advantageous, especially in the fact that competitors are given full liberty in the choice of a subject.

CIGARS AS A PHARMACEUTICAL ARTICLE.

A Boston apothecary was lately fined for selling a cigar on Sunday. In the defense it was maintained that the apothecary sold cigars as drugs, under which term he cited lexicographers as authority for including anything intended to relieve pain or suffering, and offered testimony to the effect that on occasions cigars had been prescribed by physicians.

THE PROPOSED NIGHT MEDICAL SERVICE FOR VIENNA.

It will be seen by the account given by our Vienna correspondent of the outlines proposed by the police authorities of that city for the organization of a night medical service that the scheme is well conceived, and that in all probability it will prove to be readily and satisfactorily capable of execution. In its main features it differs little from the plan put into operation in New York a few years ago, but some of the details seem to be better arranged.

THE ALLEGED FRAUDULENT USE OF A LABEL.

An action has been begun against a firm of druggists in New York, on the charge of counterfeiting the label of the firm of Merck & Co., of Darmstadt. It is to be hoped that the allegation will be disproved, for it would be much to be regretted if any New York firm, even if composed of foreigners, were to be shown to have been guilty of so discreditable a course.

LISTERISM AND DUELING.

The "Progrès médical" quotes from the "Journal des sciences médicales de Lille" an account of certain antiseptic precautions taken by Dr. Labusquière in a recent duel at which he was present in his professional capacity. Swords were the weapons, and, before the encounter took place, the doctor subjected the blades to the purifying action of fire, and then smeared them with a preparation of carbolic acid. Consequently the combatants, who were both wounded, were able to be about again in the course of a few days. This application of Listerism may be viewed as the recoil of the pendulum from the old doctrine of salving the weapon after it had inflicted a wound.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 11, 1887:

DISEASES.	Week ending Oct. 4.		Week ending Oct. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	48	10	45	9
Scarlet fever	56	15	60	8
Cerebro-spinal meningitis	3	3	5	3
Measles	6	2	21	2
Diphtheria	95	37	82	37
Small-pox	0	1	0	1

The New York Cancer Hospital.—We have been requested to announce that a house surgeon and an assistant will be appointed about the 1st of December, the term of service of the former to be six months, and that of the latter a year. The appointees must be graduates in medicine, and one of them must have served in a hospital. Candidates should apply in person to Dr. A. B. Ball, secretary, 42 West Thirty-sixth Street. The hospital is situated at Eighth Avenue and One Hundred and Fifth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 2 to October 8, 1887:*

Change of Station.

Hall, William R., Captain and Assistant Surgeon. From David's Island to Fort Custer, Montana.

Price, C. E., Captain and Assistant Surgeon. From Fort Custer to Fort Du Chesne, Montana Territory.

Suter, William N., First Lieutenant and Assistant Surgeon. From Washington Barracks to Fort McKinney, Wyoming.

Weisel, D., Captain and Assistant Surgeon. From Fort McKinney to Fort Sill, Indian Territory.

Horton, S. M., Major and Surgeon. From Fort Riley to Fort Adams, Rhode Island.

Bache, D., Major and Surgeon. From Fort Adams to Fort Riley, Kansas.

Kimball, J. P., Major and Surgeon. From West Point to Fort Elliott, Texas.

Newton, R. C., Captain and Assistant Surgeon. From Fort Elliott to David's Island, New York Harbor.

Heizmann, C. L., Major and Surgeon. From Fort Ontario to West Point, New York.

S. O. 232, A. G. O., October 5, 1887.

Carter, E. C., Captain and Assistant Surgeon. Leave of absence further extended fifteen days. S. O. 231, A. G. O., October 4, 1887.

Cabell, J. M., First Lieutenant and Assistant Surgeon. Relieved from further duty in connection with the competition of "Team of Distinguished Marksmen," at Bellevue Rifle Range, to take effect October 1st, and will return to his station, Fort Omaha, Nebraska. S. O. 95, Department of the Platte. September 27, 1887.

Cabell, J. M., First Lieutenant and Assistant Surgeon, will be relieved from duty at Fort Omaha, and assigned to temporary duty with Battalion 6th Infantry in the field. S. O. 98, Department of the Platte, October 1, 1887.

Borden, W. C., First Lieutenant and Assistant Surgeon, will be relieved by officer commanding troops upon arrival of Assistant Surgeon Cabell, and will return to his station at Fort Douglas, Utah. S. O. 98, Department of the Platte, October 1, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending October 8 1887:*

Irwin, Fairfax, Passed Assistant Surgeon. Granted leave of absence for twenty-five days. October 5, 1887.

Guitéras, John, Passed Assistant Surgeon. Granted leave of absence for seven days. September 28, 1887.

Norman, Seaton, Assistant Surgeon. Upon expiration of leave of absence to rejoin station, New York. October 4, 1887.

Society Meetings for the Coming Week:

Monday, *October 17th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *October 18th:* Virginia State Medical Society (first day—Richmond); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and St. Lawrence (semi-annual), N. Y.; Ogdensburg, N. Y, Medical Association; Hunterdon, N. J., County Medical Society (Flemington).

Wednesday, *October 19th:* Virginia State Medical Society (second day); Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Alleghany (quarterly), N. Y.; Newark, N. J., Academy of Medicine; Philadelphia County Medical Society (clinico-pathological).

Thursday, *October 20th:* Virginia State Medical Society (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *October 21st:* Virginia State Medical Society (fourth day); Chicago Gynæcological Society.

Saturday, *October 22d:* New York Medical and Surgical Society (private).

OBITUARY NOTES.

Valentine H. Taliaferro, M. D., of Atlanta, Ga., died recently at Tate Springs, Tenn., whither he had gone for the benefit of his health. The deceased was born in Oglethorpe County, Ga., September 24, 1831, and was graduated from the Medical Department of the University of the City of New York in 1852. After practicing successively in Coweta, Palmetto, Atlanta, and Columbus, he finally settled in Atlanta, which city was afterward his home. At the outbreak of the civil war he entered the Southern army as a private soldier, but was rapidly promoted through the various grades to the rank of colonel, and at the close of the war he was an acting brigadier-general. In 1859–'60 he was professor of materia medica and therapeutics in Oglethorpe Medical College, Atlanta, an institution that became extinct in 1861, and in 1872 he was appointed professor of obstetrics and diseases of women and children in the Atlanta Medical College. In 1876 he was made dean of the faculty, and in 1877 a member of its board of trustees. He was a member of the Medical Association of Georgia, of which he was vice-president in 1857, and of the Atlanta Academy of Medicine, of which he was president in 1877. Referring to Dr. Taliaferro's death, the "Atlanta Medical and Surgical Journal" says: "It is hard to estimate the loss to humanity in the early death of such a man in the midst of his usefulness and in the full maturity of his intellect."

James A. Gray, M. D., of Atlanta, Ga., died on September 27th, at the age of thirty-seven. He was born in Monroe County, Ga., and was graduated from the Atlanta Medical College in 1879. In 1881 he was made proctor of the college and appointed lecturer on venereal diseases. In 1880–'81 he was demonstrator of anatomy in the Southern Medical College. He was secretary of the Medical Association of Georgia and managing editor of the "Atlanta Medical and Surgical Journal." His death is said to have been due to typhoid fever.

Charles E. Heath, M. D., of Lee, Mass., died on Wednesday, the 5th inst., at the age of fifty-seven. The deceased was born in Barrington, and was graduated from the Albany Medical College in the class of 1856. He was a member of the Massachusetts Medical Society and of the Berkshire, Mass., District Medical Society.

John O. French, M. D., of Hanover, Mass., died on September 24th, in the sixty-seventh year of his age. He was born in Gilmanton, N. H., and was graduated from Dartmouth Medical College in 1844. At the outbreak of the civil war he entered the army as surgeon, in which capacity he was distinguished as a man of unusual coolness and powers of endurance. At the close of the war he returned to Hanover, where, with the exception of a few years' residence in Boston, he afterward resided. He was a member of the Massachusetts Medical Society and of the Plymouth, Mass., District Medical Society.

George O. Allen, M. D., of West Roxbury, Mass., died suddenly on Monday, the 3d inst., in the forty ninth year of his age. He began his medical studies at the Medical School of Maine, and was graduated from Harvard Medical School in 1866. During the civil war he served as a medical cadet, and as a volunteer assistant surgeon in the navy in the Mississippi squadron. At the close of the war he was for a time connected with the Naval Hospital at Chelsea, Mass., and was also on the Franklin in the European squadron. In 1872 he resigned his position in the navy and settled in West Roxbury, where he afterward resided. He was a member of the Massachusetts Medical Society and of the Norfolk, Mass., District Medical Society.

Professor Joseph Meyer, of Berlin, Griesinger's successor as director of the medical *Poliklinik* of the university, died on the 25th of September. Dr. Lubinski, his former assistant, who attended him in his last illness, contributes to the "Deutsche Medizinal-Zeitung" a brief but very touching tribute to the deceased, whom he speaks of as beloved by those who served under him and as particularly painstaking in the difficult work of teaching clinical medicine.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

(Continued from page 334.)

Three Hundred and Eighty-four Laparotomies was the title of a paper read by Dr. John Homans, of Boston, who confined himself wholly to his own experience. The general method of operating was as follows: The sponges were prepared by soaking in a 1-to 1,000 corrosive-sublimate solution. They were then wrung out dry with an ordinary wringing machine, and kept in a 1-to-20 carbolic-acid solution. The carbolic-acid spray was always used, although it was considered unnecessary, and an electric light was always kept in readiness. Of the first five non-antiseptic operations, all the patients had died; of the antiseptic operations, 248 patients had recovered and 34 had died. The vitality, or viability, of the patient had much to do with the result of the operation. The usual causes of death had been peritonitis and septicæmia. The author was skeptical about the occurrence of mechanical intestinal obstruction, except as the intestines were paralyzed by peritonitis. Two patients in whom the bladder was wounded during ovariotomy had recovered and were living two and six years, respectively, after the operation. In both cases the opening in the bladder was closed with silk sutures. Of the patients who survived the operation, nine had died of abdominal cancer a few months or years afterward, and thirty had had ventral hernia. There were fifteen children born of eleven women out of about two hundred heard from. The sexes did not correspond to the ovary remaining. The usual length of the incision was about two inches. The stump was always tied, burned, and dropped back. Silk sutures were used, and care was taken to include all the abdominal parietes, particularly the transversalis fascia. Drainage was used in fifteen cases. The greatest number of consecutive recoveries after ovariotomy had been thirty-eight. The author had never seen a suppurating ovarian cyst but once, and in that case the cyst had been tapped. There were cysts which contained fat and sebaceous matter which to the naked eye looked exactly like laudable pus and could only be distinguished from it by microscopical examination. There were two cases of swelling of the parotid gland after ovariotomy. Both patients recovered quickly, and the speaker did not regard enlargement of the parotid during convalescence as of special importance. The cases of removal of uterine fibroid tumors numbered twenty-seven, with seventeen recoveries. In the later cases, the patients had nearly all recovered. The operation was never done unless the patient's life was in danger from hæmorrhage, mechanical pressure, or exhaustion, or unless she suffered severe pain. In the cases of ovarian cysts, uncomplicated except by adhesion, where the tumor could not be removed, and in which the cyst was stitched to the abdominal wall, numbering nine, recovery had followed. The author had had but one case of collection of pus in the abdominal cavity, which was treated successfully by laparotomy and drainage. Of salpingitis and abscess of the ovary due to gonorrhœa, there had been one case. This was treated by removal of both tubes and one ovary. The patient recovered. Of removal of large intra-abdominal fatty tumors, there were two cases, both of which ended fatally. The speaker had had one case of operation for the closure of Meckel's diverticulum, in an infant five months of age, resulting in complete cure. One case of intestinal obstruction caused by Meckel's diverticulum, occurring in a man twenty-one years of age, had resulted fatally. One case of cure of tubercular peritonitis and dropsy by laparotomy was reported. The patient was now fat and healthy, three years after the operation. Three cases of removal of the kidney for sarcoma, cancer, or abscess terminated fatally. There were five cases of lumbar colotomy, or pubic colotomy, three of which were successful. The author had removed a fibroid tumor in the abdominal fascia and peritonæum of the right lumbar region by laparotomy. The patient was now in good health, four years after the operation. A number of cases of special interest were briefly reported, and an exhaustive table of all the cases was shown.

The following *résumé* was given :

282 Ovariotomies	248	recoveries,	34	deaths;
27 Hysterectomies	17	"	10	"
32 Partial removals of uterine and ovarian tumors	10	"	22	"
19 Exploratory operations	16	"	3	"
10 Removals of uterine appendages.	9	"	1	death;
14 Miscellaneous laparotomies	5	"	9	deaths;
384 Laparotomies	305	"	79	"

An Important Point connected with Abdominal Surgery was the title of a paper read by Dr. Addinell Hewson, of Philadelphia. The point referred to was in connection with the coaptation of the wound after laparotomy. The diminution of the number of ligatures and the lessening of their irritating properties was of great importance. The abandonment of sutures was recommended, the wound being kept in apposition by means of gauze secured on each side with book-binder's glue. The glue was not applied nearer than half an inch from the wound. This dried as quickly as collodion, it dried on a moist surface, and it would hold securely. Gauze so secured would support twenty pounds to the square inch. It was not disturbed by motion or distension.

When is Colotomy Justifiable?—This was the title of a paper by Dr. J. M. Mathews, of Louisville, Ky. The following conclusions were presented: 1. Colotomy is not justifiable in cases of cancer of the rectum. 2. In stricture or obstruction of the rectum from whatever cause, within three inches and a half of the sphincter, colotomy should not be done. 3. The operation is not warranted in cases of ulceration of the rectum, unless of specific origin, and accompanied with stricture beyond the reach of the finger. 4. Colotomy should not be performed for a tumor or aneurysm causing pressure on the bowel. 5. In cases of congenital occlusion of the rectum, the operation is not to be recommended. 6. In cases where the operation is looked upon as a last resort, colotomy should not be done, save for total obstruction, of benign or specific origin, located farther than three inches and a half above the sphincter. 7. Where the rectum or the sigmoid flexure is closed by a stricture of benign or specific origin, colotomy is indicated. The reasons for advising against colotomy in the cases given above were, that the operation did not prolong life; that, admitting that life could be prolonged, the operation is not advisable; instead of prolonging life, surgical interference shortened it, and the pain was not materially lessened by the operation. Where the disease was located within three inches and a half of the sphincter, it might be treated by division. In other cases proctotomy was recommended.

Dr. Dawson, of Cincinnati, had never performed colotomy with any satisfaction to himself or with much to his patients. There were, however, cases in which it seemed to be indicated. The speaker had now a patient, a young man, with an immense cancerous mass in the rectum almost beyond the reach of the finger, and narrowing the caliber of the bowel to half an inch. There was not the slightest sign of cachexia. The growth was accompanied by extreme pain. He had almost decided to open the abdomen, and if possible remove the mass with a portion of the gut. This operation had been done in Europe; but it was not old enough to enable us to judge of the results to be attained. In syphilitic cases, where there was stricture, the stricture would disappear under antisyphilitic treatment.

Dr. G. M. Quimby, of Jersey City, agreed with Dr. Mathews. He had performed operations similar to that suggested by Dr. Dawson, but the result had not been satisfactory. Unless there was total stricture the operation was hardly justifiable.

Dr. Samuel Benton, of London, had understood the author to say that colotomy was not to be recommended for total obstruction due to cancer of the rectum. His practice was, if he could penetrate beyond the cancer, to do extirpation. If the growth was so high that he could not remove the whole of it, he performed colotomy. He would recommend colotomy in these cases of cancer of the rectum. In the cases that he had had, life had been prolonged about fifteen months after colotomy. The last patient lived eighteen months. There was complete obstruction, and, if the operation had not been performed, the patient would have died in two weeks. It had been his experience that the straining and bearing down at stool were relieved by colotomy. The growth to a certain extent remained at a standstill, and a considerable amount of the pain was done away with. After proctotomy the stricture quickly returned. He treated benign tumors by electrolysis. This quickly relieved the stricture. The treatment was safe and could be continued while the patient remained at his ordinary work. He would not say that the stricture did not return, but it could be kept down by a repetition of the electrolysis or by dilatation practiced by the patient.

Dr. J. A. C. O'Neil, of Gettysburg, Pa., thought the proper course to be pursued in the case referred to by Dr. Dawson would be to inject the mass with carbolic acid and scrape it out. This would afford relief.

Dr. J. W. Hamilton, of Columbus, O., would utter a word of warning against the use of carbolic acid in the treatment of diseases of the rectum. The use of this agent was fraught with danger. Where there was obstruction due to cancer of the rectum, colotomy should be performed.

Dr. E. M. Moore, of Rochester, N. Y., thought it was extremely rare to observe cancer in a person only seventeen years of age, as in Dr. Dawson's case. At that age sarcoma was very common. This was not accompanied by the cancerous cachexia, and every surgical operation for sarcoma was a failure. He would strongly object to the operation proposed, and would recommend colotomy.

Dr. W. N. Hingston, of Montreal, thought that colotomy should be performed where there was obstruction. It also relieved pain. When the whole of the mass could be got away, proctotomy should be performed.

Dr. O'Neil had used carbolic acid for ten or fifteen years, and as a general rule had found it of value.

Dr. Mathews would merely say that carbolic acid was a hazardous remedy—one that had caused much damage and led to hundreds of deaths.

(*To be continued.*)

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of September 28, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

Peculiar Sequelæ of Measles.—Dr. James Collins read the following paper:

Measles is usually considered a very simple affection. The respiratory organs and eyes are usually watched. This being accomplished, and care being taken that aural catarrh is not developed, measles is considered as having been properly treated. During the recent epidemic I witnessed some sequelæ from measles in which the nervous system seemed to be especially involved.

Case I.—A girl of eight years. The fever, eruption, and desquamation followed the usual course; and not until several days after the skin had resumed its normal color, and the bronchitis had disappeared, did the symptoms of chorea develop. This child was a blonde, of Irish parentage. The invasion of the nervous symptoms was gradual, but they developed to a violent degree. During the second week the agitation of the child was so great that she could not remain upon a sofa without being guarded or tied. She was unable to feed herself, and was constantly laughing and giggling, as well as twitching. Cimicifuga, tonics, and applications to the spine were used. The child recovered, and was well at the sixth week.

Case II.—A girl of eleven years, of German parentage, a dark blonde, also developed chorea, but in a less violent degree. Similar treatment was pursued, and recovery was complete in the fourth week.

The marked nervous element in these cases causes them to be worthy of note.

Case III.—Kate A., aged three years and a half; the second case of measles in the house. The eruption appeared at the normal period, and followed the usual course. Catarrhal symptoms were not more marked than usual. The temperature did not rise above 103° F., and the pulse was 110 at the highest point. On the third day of the eruption she exhibited a peculiar irregular kick while in bed. Examination revealed that the reflexes of the ankle and knee were exaggerated, while the ability to stand was greatly impaired, and the co-ordination of the movements of the lower extremities was imperfect. On the following day she was unable to sit up in bed, the arms kept in irregular motion, while the power to grasp was almost lost for small objects. By the fourth day hearing was impaired, and by the seventh day eyesight was lost, and the action of the sphincters became uncertain. Blind, deaf, and powerless for self-help, this poor child for five weeks kept up an idiotic cry, with irregular swinging and aimless motion of the arms and legs. The special senses gave some objective evidences of such a grave condition. The fundus of the eye showed the arteries tortuous, the veins full, and the chorioid congested, and the disc seemed to be choked in either eye. Dr. Lautenbach, who is skilled in the use of the ophthalmoscope, assured me, however, that the condition was that of a swollen disc from active inflammation, and not a true choked disc. The membrana tympani of each ear was normal. From a hyperæsthesia of the reflexes there resulted a condition of impaired sensation, with subnormal temperature, as a rule. After five weeks, under the use of absorbent alteratives and counter-irritation to the spine, the child began to improve, and after twelve weeks commenced to walk and see; hearing was slow to return. The reflexes of the bladder and rectum also became normal. Yet the child continued nervous and irritable, howling with a raucous voice when disturbed or denied any of her wishes. During the summer she has gradually improved; she now walks with gait somewhat wabbling. She eats well, sleeps well, and is well nourished. Her temper is irascible; she drags the right foot, and falls easily. The motion and use of the upper extremities appear to be normal. The hearing is nearly normal. The fundus oculi shows evidences of some structural changes; the vessels are still small and tortuous, and some chorioiditis remains. Vision has improved so that she can distinguish objects, but my last attempt to test it accurately resulted in ignominious failure. The urine has shown neither albumin nor sugar. Specimens examined were of normal specific gravity, and deposited phosphates on standing.

The following case presents some peculiar conditions:

Case IV.—Edward L., aged nine years, had measles in March, 1886. The attack was severe for four days, and, in spite of treatment, the recovery was slow. He complained of severe headache and of seeing double at times. During the spring and summer he seemed to be tolerably well, excepting headache, from which he suffered frequently. In July, 1886, his headaches increased. At times his head seemed to be drawn either backward or to one side, the paroxysms lasting four or five minutes, after which he would complain of seeing double. On closing the left eye, vision improved; at times he vomited his food with glairy mucus. The lad improved under treatment. Spells of headache became less frequent. As he complained of his eyes, examination showed hypermetropia of 1 D. right eye, 2 D. left eye, with astigmatism in the left eye. The optic disc of the left eye was swollen, that of the right less so. Glasses given in November improved the vision, but the headache was still persistent at intervals. He got along tolerably well until February, 1887, when the headache returned with increasing violence; his gait became unsteady, and double vision increased, becoming almost constant. In April he was taken to a specialist, who added prisms to his glasses, which, for a time, improved his vision. In May his headaches became violent again; he suffered from attacks of nausea; his gait became more uncertain; he stiffened his feet in walking, and staggered with uncertain movements, frequently falling, but seemed in good spirits; and his temperature was subnormal. His urine was pale and passed in large quantities, but neither sugar nor albumin was detected. Since July the lad has lost flesh; loses his food by vomiting frequently; often the matters vomited are undigested food with glairy mucus, of a yellowish tinge. Pain in the head is always present before vomiting, and the head is thrown backward; he belches, and often has hiccough. The temperature is subnormal, and the hands and feet are usually cold. He generally sleeps well. The condition of his eyes as I have seen them, and been confirmed by Dr. Isett, who is practiced in the use of the ophthalmoscope, shows both discs swollen; the arteries small and tortuous; the veins large and tortuous; the chorioid congested. Dr. Isett adds: "No doubt there is pressure on the brain somewhere." The treatment of this lad has been tonic, alterative, and dietetic. The case presents a peculiar outcome from measles.

I report these to elicit further reports of such cases, and for the sake of calling attention to the effects of measles on the nervous system, which, in these cases, seems to have suffered severely.

Dr. William B. Atkinson said that during the last epidemic of measles he had seen more cases of inflammation of the lungs than in any previous epidemic within the last thirty-five years. Catarrhal sequelæ had been extremely common. He had not met with eye troubles, nor had he seen any evidences of brain affections. He recalled two cases, seen some fifteen years ago, in which the eyes and the brain were so affected that vision was entirely lost. In one case the vision returned after a period of fifteen months, and the child recovered perfectly. In the second case, that of a child eighteen months of age, the vision was perfectly restored at the end of eight or ten weeks. He attributed the restoration of vision, in the first case, largely to the use of phosphorus, which, with intervals of rest, was continued for a year.

Dr. W. M. Welch had never met with the sequelæ referred to by Dr. Collins, but thought that reference is made to them in elaborate text-books. Such sequelæ were, he thought, more frequent after small-pox than after measles. He had seen the hearing and speech affected during recovery from small-pox, but never from measles. The author had referred to a subnormal temperature after defervescence took place. The speaker had noticed this, and also unusual slowness of the pulse. In adults, he had frequently found the pulse under fifty, when in the recumbent posture.

Dr. E. T. Bruen said that the question whether or not in these cases, where nervous symptoms had been prominent, there was any lesion of the nervous system, had always been an interesting one to him. He had recently had the opportunity of making a post-mortem examination in a case of typhoid fever where nervous symptoms had been well marked from the second week onward. The patient had always been regarded as an hysterical individual. There was spasm of the muscles of the back of the neck, with retraction of the head to the right side, also spasm of the right arm, with contraction of the muscles, and the right leg was similarly affected. The pupils always responded to light, and there was no paralysis of any muscle. The only abnormal condition found in the brain was the presence of two cysts, one in each fissure of Sylvius. These were of about the size of a walnut and contained clear fluid. There was no evidence of inflammation or of the presence of hydatids. It was a question whether or not these cysts were congenital. This case showed that there might be marked nervous symptoms without special lesions, and at the same time might we not imagine that some of these cases of severe nervous symptoms in the course of the specific fevers occurred in consequence of imperfect development of the cerebral substance? The only case in which he could recall symptoms similar to those described by Dr. Collins was that of a child four years of age, and the result in that case had been permanent insanity.

Book Notices.

Syphilis. By Jonathan Hutchinson, F. R. S., LL. D., Consulting Surgeon to the London Hospital, etc. With Eight Chromo-lithographs. Philadelphia: Lea Brothers & Co., 1887. Pp. xii–532. [Price, $2.25.]

Few men are better known in the medical world than Mr. Jonathan Hutchinson. For years he has written and spoken clearly and instructively upon the disease which is the subject of the book now before us. When such a man writes a book on syphilis, we are justified in expecting one of great value, and we have not been disappointed in this instance. Nevertheless, we are conscious of a feeling of annoyance, because the valuable material given in the book is arranged so badly that the general effect is marred. The subject is treated of under two main divisions: 1, general statements, 64 pages; 2, clinical commentaries and illustrative cases, 454 pages.

In regard to the use of such terms as syphilitic lupus, syphilitic psoriasis, syphilitic lichen, and the like, there are those who hold that such diseases of the skin do not exist, and that the use of such terms only makes the confusion of dermatological nomenclature worse confounded. We confess that we are somewhat surprised at so unscientific a use of terms as occurs on page 344, where we read of a syphilitic form of lupus erythematosus being predisposed to by the chilblain diathesis (!). Mr. Hutchinson is a unicist, and teaches that the soft non-infecting sore is produced by the inflammatory products of syphilis without the actual virus of the latter disease. He believes that syphilis is of microbian origin, but that the specific microbe has not yet been discovered. He believes that oft-repeated small doses of mercury are capable of aborting syphilis in most cases, provided its administration is begun at the time of the induration of the initial lesion and the appearance of the button bubo. Second attacks of syphilis are not considered to be uncommon, and he does not regard them as evidences of complete cure of the first attack. The contagious property of syphilis is believed to exhaust itself after two years; and at the expiration of that time the surgeon is justified in sanctioning marriage, provided the patient has undergone a thorough course of mercury.

The phenomena of the tertiary period of syphilis are due, according to our author, to peculiarities which have been stamped upon the tissues during the active or secondary period of the disease. They are often excited by purely local causes, and are entirely non-contagious, though they spread by a species of local infection. They are but little influenced by specific treatment, except in their earliest stage.

Mr. Hutchinson teaches that a child may inherit syphilis from the father through the agency of the semen; from the mother through the agency of a diseased ovum or the placental circulation; or from both parents. Hereditary syphilis can not be passed on to the third generation, nor does syphilis ever cause any other chronic skin disease or scrofula. The physiognomy of a typical case of inherited syphilis is admirably given on page 433; the symptoms of iritis in the same disease are tabulated on page 244; and the appearances of "Hutchinson's teeth" are scattered about through the book, but are best shown on pages 86 and 422.

To one who is well versed in syphilography, this book will prove attractive on account of its wealth of short clinical notes illustrating many rare phases of syphilis. To one who has seen a fair amount of syphilis, it will serve as a light to illuminate some obscure cases. But it seems to us that it would be difficult for a student or tyro in medical practice to derive from it a clear idea of the disease of which it treats; and this, not because the book does not contain the whole subject, but because the matter is presented so unsystematically. If the general statements were given more fully, and the clinical commentaries were better arranged, it would be an exceedingly good treatise on syphilis. The book is well printed and provided with a copious index. The eight lithographic plates, with their thirty-two illustrations, are worth the price of the book. They well illustrate syphilitic chorioiditis and iritis, erratic chancres, and syphilitic disease of the teeth and nails. We are pleased to note that our compatriot, Dr. R. W. Taylor, is given full credit for his pioneer work concerning dactylitis syphilitica.

Lectures on the Surgical Disorders of the Urinary Organs. By Reginald Harrison, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, etc. Third Edition, rewritten and enlarged. London: J. & A. Churchill, 1887. Pp. xi–583.

The second edition of this excellent and exceedingly practical work was issued in 1880, and reviewed at some length in our columns. The book now appears with nearly two hundred more pages, including the contents of two other books by the same author, viz.: "The Prevention of Stricture and Prostatic Obstruction," issued in March, 1882, and "Observations on Lithotomy and Lithotrity," issued in May, 1883. We need not again attempt a critical examination of the book, but will simply note that one hundred and sixty-seven of its pages are devoted to the consideration of stricture, nearly one hundred pages are given to an account of the diseases of the prostate, and the same number of pages are taken up by a study of stone. The book is profusely illustrated with woodcuts, and is one of the most complete and valuable treatises upon the subject that we have seen.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—F. Despagnet, "De l'irido-chorioïdite suppurative dans le leucome adhérent de la cornée." (2*fr.*) —— L. Martineau, "Leçons sur la thérapeutique de la métrite." (3*fr.*) —— Lahillonne, "Étude de posologie hydro-minérale rationnelle dans les troubles de la respiration et de la circulation." (1*fr.* 50.) —— Lemoine, "De la blépharoptose cérébrale."

A. Delahaye & E. Lecrosnier, Paris.—Odent, "Des angines pseudo-membraneuses au cours de la scarlatine." (2*fr.*) —— A. Hovelacque and G. Hervé, "Précis d'anthropologie."

J. B. Baillière & fils, Paris.—A. Herzen, "Le cerveau et l'activité cérébrale au point de vue psycho-physiologique." (3*fr.* 50.) —— O. Jennings, "Sur un nouveau mode de traitement de la morphinomanie." (1*fr.* 50.) —— Oré, "Hygiène des maternités." (2*fr.* 50.)

O. Doin, Paris.—L. Danion, "Traitement des affections articulaires par l'électricité; leur pathogénie." (5*fr.*) —— A. Brissay, "Fragments de chirurgie et de gynécologie opératoire contemporaines." Introduction by J. A. Doléris. (7*fr.*)

Morris & fils, Paris.—S. E. Mavrogény Pacha, "Conférences médicales sur la malaria."

Bureaux du "Progrès médical," Paris.—J. Strauss, "Le charbon des animaux et de l'homme." (6*fr.*)

G. Steinheil, Paris.—S. Bonnet, "De la cure radicale des hernies épigastriques." —— R. Brunon, "Contribution à l'étude de la myosite infectieuse primitive."

A. Abel, Leipsic.—A. Krüche, "Specielle Chirurgie. Ein kurzes Lehrbuch für Studirende und Aerzte." 4th ed. (6*M.*)

Benrath & Vogelgesang, Aachen.—J. Beissel, "Balneologische Studien mit Bezug auf die Aachener und Burtscheider Thermalquellen." (1*M.* 40.)

M. Cohen & Sohn, Bonn.—H. Ribbert, "Der Untergang pathogener Schimmelpilze im Körper." (3*M.*)

W. Engelmann, Leipsic.—B. Hofer, "Untersuchungen über den Bau der Speicheldrüsen und des dazu gehörigen Nervenapparates." (5*M.*) —— W. Kirchner, "Ueber Divertikelbildung in der Tuba Eustachii des Menschen." (4*M.*) —— T. Kölliker, "Ueber die Hernia processus vaginalis encystica." (0*M.* 60.) —— P. Müller, "Bemerkungen über physiologische und pathologische Involution des puerperalen Uterus." (1*M.* 60.) —— Von Nussbaum, "Ueber Unglücke in der Chirurgie." (1*M.* 20.) —— J. Orth, "Ueber die Entstehung und Vererbung individueller Eigenschaften." (2*M.*) —— Reubold, "Ueber Pankreasblutung vom gerichtsärztlichen Standpunkte." (1*M.* 20.) —— J. A. Rosenberger, "Ein Vorschlag zur Behandlung gangränescirender Darmwandbrüche." (1*M.*) —— H. Virchow, "Ein Fall von angeborenem Hydrocephalus internus, zugleich ein Beitrag zur Mikrocephalenfrage." (6*M.*)

F. Enke, Stuttgart.—P. Zweifel, "Lehrbuch der Geburtshülfe für Aerzte und Studirende." (16*M.*) —— A. Vogel, "Lehrbuch der Kinderkrankheiten." 9th ed. Ed. by P. Biedert. (14*M.*) —— Von Nussbaum, "Leitfaden zur antiseptischen Wundbehandlung mit Rücksicht auf ihren gegenwärtigen Standpunkt." 5th ed. (6*M.*) —— C. F. Kunze, "Compendium der praktischen Medicin." 9th ed. (10*M.*) —— A. Politzer, "Lehrbuch der Ohrenheilkunde für praktische Aerzte und Studirende." 2d ed.

Heuser, Neuwied.—Michaelis, "Rathgeber für Leberkranke." (3*M.*)

A. Hirschwald, Berlin.—F. Falk, "Die pathologische Anatomie und Physiologie des Joh. Bapt. Morgagni (1682–1771). Ein monographischer Beitrag zur Geschichte der theoretischen Heilkunde." (2*M.* 40.) —— A. Goldscheider, "Neue Methode der Temperatursinnprüfung." (4*M.*) —— E. Siemerling, "Anatomische Untersuchungen über die menschlichen Rückenmarkswurzeln." (2*M.* 60.)

A. Hölder, Vienna.—S. Stricker, "Ueber die wahren Ursachen." (1*M.* 50.) —— E. Neusser, "Die Pellagra in Oesterreich und Rumänien." (1*M.* 50.)

Lipsius & Tischer, Kiel.—G. Berger, "Fünf Fälle von Erweiterung der Stirnhöhlen durch Flüssigkeitsansammlung." (0*M.* 80.)

A. Müller, Zürich.—A. E. Fick, "Ueber Erkältung." (0*M.* 80.)

Vandenhöck & Rupprecht, Göttingen.—G. Riehm, "Repetitorium der Zoologie, zum Gebrauch für Studirende der Medicin und Naturwissenschaften." (3*M.* 60.)

F. Vallardi, Rome.—A. Biondi, "Trattato di semiotica medica." (15*l.*)

BOOKS AND PAMPHLETS RECEIVED.

Massage. Principles and Practice of Remedial Treatment by Imparted Motion. By George H. Taylor, M. D., etc. New York: John B. Alden, 1887. Pp. 5 to 173.

Senkung und Vorfall von Scheide und Gebärmutter sowie die veralteten Dammrisse. Von Dr. G. Walcher, 1. Assistenzarzt die geburtshilflich-gynäkologischen Klinik zu Tübingen. Tübingen: H. Laupp, 1887. Pp. xiii–161. [Gynäkologische Abhandlungen unter Zugrundlegung von 4,000 Fällen aus der geburtshilflich-gynäkologischen Klinik zu Tübingen.]

The Delusion of Tonics. By George H. Taylor, M. D., etc.

A Practical Treatise on the Diseases of the Hair and Scalp. By George Thomas Jackson, M. D., Instructor in Dermatology in the New York Polyclinic, etc. New York: E. B. Treat, 1887. Pp. 21 to 356. [Price, $2.75.]

The Specific Gravity of the Urine and its Relations to Structural Diseases of the Kidneys. By Charles W. Purdy, Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston. [Reprinted from the "Journal of the American Medical Association."]

The Burton Case. By W. Thornton Parker, M. D., etc., Newport, R. I. [Reprinted from the "Journal of the American Medical Association."]

Successful Removal of Two Osteomata of the Orbit: One originating in the Frontal, and the other in the Ethmoidal Cells. With a History of Osteomata of the Neighboring Pneumatic Cavities of the Orbit. By Joseph A. Andrews, M. D., Ophthalmic Surgeon to Charity Hospital, New York. [Reprinted from the "Medical Record."]

Suppuration de l'oreille moyenne. Par W. Cheatham, M. D., chargé du cours des maladies de l'œil, de l'oreille, de la gorge et du nez à l'Université de Louisville, Ky. (traduit de l'Anglais par R. Lendat). [Reprinted from "Annales des maladies de l'oreille, du larynx, du nez et du pharynx."]

Sanitary Progress. A Paper read before the Beirut Literary Society, February 4, 1886. By C. F. Dight, M. D., Professor of Physiology and Hygiene in the American College at Beirut, Syria.

Surgical Relations of the Ileo-cæcal Region. By J. McF. Gaston, M. D., of Atlanta, Georgia. [Reprinted from the "Journal of the American Medical Association."]

Pathology, Diagnosis, and Treatment of Perforation of the Appendix Vermiformis. By J. McF. Gaston, M. D., Professor of Surgery, Southern Medical College, Atlanta, Ga. [Reprinted from the "Journal of the American Medical Association."]

The Dressings and Appliances employed in the Practice of Antiseptic Surgery. London: John Milne, 1887.

Études cliniques sur le morrhuol (extrait de l'huile de foie de morue brune). Par E. C. Lazeaud, Docteur en médecine de la Faculté de Paris, Paris: G. Steinheil, 1887. Pp. 56.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Myopia and its Treatment.—Knies ("Arch. f. Ophthal.," xxxii, 3) begins by defining myopia as a pathological process which leads to an enlargement, and especially to elongation, of the eyeball beyond the normal limits of growth. The first symptoms of beginning myopia are both subjective and objective. The subjective symptoms are a sense of pressure in and behind the eye, photophobia, asthenopia, entoptic manifestations, phosphenes, etc. The objective symptoms are a wide pupil and typical changes in the fundus. The first changes in the fundus are hyperæmia of the optic disc and loss of retinal luster, and this condition Knies characterizes as myopia imminens, as distinguished from that condition in which a crescent has already begun to form on the temporal side of the disc, and which he calls myopia incipiens. The lost retinal luster never returns, nor does the optic papilla ever regain its normal appearance. Knies regards myopia as a disease of the eyes which, to a certain extent, stands between iritis serosa on the one hand and chorioiditis disseminata on the other. It is analogous to the first in the more diffuse extension of the trouble in the external layers, whereby the pigment epithelium is in the beginning but little affected. It is analogous to the latter in its localization in the posterior pole of the eye. In common with both, it is more apt to occur at the period of puberty, and to be bilateral. In all three diseases the extension of the inflammatory process from the eye along the optic nerve and its inner sheath may be demonstrated. In all three diseases, therefore, the condition of the optic nerve is a test or proof of the activity of the process.

Investigations into the Relation between Convergence and Accommodation of the Eyes.—Maddox's article ("Ophth. Review," Dec., 1886) is an abstract of three papers previously published in the "Journal of Anatomy and Physiology." His chief method of examination was the direct method, to ascertain the relative position of equilibrium of the eyes, as follows: The dark box into which the eyes look from the narrow end has a median partition crossed at one point by a rectangular obstructive. At the farther end are two luminous apertures, represented by the dots to which lines are drawn from the eyes. The right one is movable, and its position is quite correctly estimated as long as the obstructive is in the middle, for then the desire for single vision is exercised. But, when the obstructive is pushed to the right, that desire ceases, and the two apertures appear to approach each other. The apertures are at slightly different levels, and when they are adjusted so as to appear to be in the same vertical line, a real interval separates them, which records automatically on a graduated scale the deviation which occurs. The results of his examinations are as follows: 1. The natural position of equilibrium of the two eyes with distant vision is one of slight convergence of their visual axes. The rule, therefore, is that, when in distant vision one eye is covered by the hand, the covered eye turns in. It follows from this that the exact parallelism of the visual axis which occurs in natural binocular vision for distance is only maintained by the active exercise of the desire for single vision. 2. The degree of initial convergence is the same whether one or both eyes are engaged in active fixation of distant objects, provided the desire for single vision is not excited. This shows that the convergence of the covered eye is not due to lessening of its accommodation, and is corroborative of the fact that the effort of accommodation is a single one for both eyes. 3. The central connection between accommodation and convergence is so delicate that the slightest increase of the former alters the position of the visual axis of a covered eye. This associated or "accommodative" convergence is added on to the initial convergence, so that for nearer objects up to a certain distance from the eye there still exists some relative convergence, but the "initial" disproportion between convergence and accommodation is continually lessened till a point is reached, in viewing which it ceases. 4. The first effort of accommodation is accompanied by more than its corresponding proportion of a metre angle, but from this "point of greatest relative convergence" the disparity gradually lessens up to the point of coincidence. 5. As vision approaches from the point of coincidence, relative divergence sets in, and gradually increases till at ten inches from the eyes there is an outward deviation of a covered eye to 4° or 5°. The deviation begins in half a second after the eye is covered, and continues to advance at decreasing speed for from half a minute to a minute and a half. 6. The deviation is exactly similar whether one eye is placed subjectively in the dark, or both receive one or more images. 7. This divergence in near vision is greatest on first opening the eyes in the morning; it diminishes rapidly during the first half hour and more slowly through the day, and undergoes a temporary increase after the principal meal. 8. The convergence of near binocular vision is, therefore, composed of three factors. The "initial" convergence is the starting-point. To it is added the accommodative convergence; and, lastly, the "fusion-supplement," excited by the desire for single vision, makes up what deficiency is left. 9. As vision approaches close to the near point, the increasing mechanical resistance to both accommodation and convergence necessitates the expenditure of continually increasing effort to do each equal increment of work. But the effort required increases in much quicker ratio for the former than the latter, so that each dioptre of accommodation requires an effort great enough to cause more than a metre angle of convergence. 10. The oculo-motor muscular sense is purely central. 11. When one eye is covered, the object seen by the other eye *seems* to move in the direction of the covered one; the *apparent* movement is at half the rate, and through half the angle of the *real* deviation of the excluded eye, showing that half the deviation is due to contraction of the external rectus by a ranging center, and the other half to relaxation of the internus from the converging center. 12. A fixed object seen by a stationary eye may *appear* to move in some experiments, and the same fixed object seen by a moving eye may appear stationary in others, according to the innervations in play. 13. The great physiological differences in the extent of the connection between the two efforts of convergence and accommodation in different individuals account for the fact that squint results as a consequence of many cases of hypermetropia, with less refractive abnormity than in other cases where squint shows no tendency to occur. 14. If accommodation and convergence were as inseparable as they were once thought to be, there would be diplopia for most objects outside the median plane, homonymous or heteronymous, according to their distance from it. 15. The two efforts are primitively in large measure dependent, but the connection gradually lessens as age advances.

A Case of Double Ophthalmoplegia.—Caudron ("Rev. gén. d'ophthal.," Jan., 1887) reports a case of this kind in a locksmith, aged forty, who applied for treatment, complaining of loss of sight. With the right eye he could count figures at two metres and a half, but with the left he could only distinguish the movements of the hand at one metre. There was a simple atrophy of the optic disc, more pronounced in the left eye. With the right eye green could not be recognized, and blue and red only in the infero-nasal segment of the field. In the left eye there was a large central scotoma, and red and blue could only be recognized in large masses, while all other colors were not recognized at all. Both eyes were absolutely immovable in the orbits. The pupils responded to both direct and reflex irritation, though sluggishly. The case must be classed as one of bilateral nuclear paralysis. This patient drank to excess, and was the son of an alcoholic mother. He had no tabetic symptoms and no headache, but his memory had failed, and he was somnolent.

The Astigmatic Contractions of the Ciliary Muscle.—Martin ("Annales d'oculistique," Jan.–Feb., 1887) draws the following conclusions from his investigations: In certain cases the over-correction in one eye is associated with a partial contraction, excited by a corneal astigmatism of the other eye. The over-correction operates in virtue of the law of associated movements. The associated astigmatism results from an associated contraction. The difference in the degree of astigmatism of the corneæ of the same patient does not always induce a contraction exceeding the limit in the less astigmatic eye. Whenever the difference between the two asymmetrical surfaces is slight, each eye regulates its own internal contractions. Whenever the associated contraction is manifest, the difference between the corneal astigmatism of the active eye and that of the passive eye varies between 0·50 D and 3·50 D. About one patient in eight seems to escape this influence of one eye upon the other. The associated contraction is always of a less degree than the contraction which gave rise to it. In subjects showing partial contraction in the active eye, this contraction varies from 0·25 D to 1 D. When there exists in the passive eye a slight degree of corneal astigmatism, the correcting contraction does not ordinarily make a right angle with the meridian of greatest refraction of the cornea. A horizontal contraction of the active eye gives rise in the passive eye to a contraction either horizontal or within 15° of horizontal. A vertical contraction apparently causes an oblique contraction. An oblique contraction excites an oblique contraction, with an angular difference varying from 0 to 30°. In the great majority of cases of oblique contractions the associated contraction lies in the same direction as the directing contraction. The angle existing between the directing contraction and the associated contraction only once reached the height of 90°. The associated contraction causes a subjective astigmatism in an eye without corneal astigmatism, and always lasts longer than the contraction which gave it birth. Prolonged use of atropine is necessary to overcome this contraction, and the longer it has existed, the more obstinately it resists treatment.

Indications for Intra-ocular Irrigation after Extraction of Cataract.—Grandclément (*ibid.*) is convinced that irrigation of the anterior chamber and of the capsular sac is an excellent and very necessary complement to the extraction of the cataract. The irrigating fluid brings away numerous lenticular *débris*, which otherwise might remain concealed from view of the surgeon and give cause to serious inflammation. These irrigations are particularly to be recommended in immature cataracts. He advises a solution of mercuric bichloride of the strength of 1 to 5,000.

Sudden and Lasting Nystagmus Lateralis, most Marked when Looking to the Left.—At a meeting of the Ophthalmological Society of the United Kingdom ("Ophth. Rev.," March, 1887) there was shown a man, aged seventy, who three days previously had noticed, on waking, that fixed objects moved and rocked laterally. He had been troubled with slight diplopia for fifty years. For the last week he had been giddy. He had been deaf for fourteen years in the right ear, and for five years in the left ear, from ordinary middle-ear catarrh. There was no apparent squint, and an examination of the diplopia showed that the double images were but little distance apart. Lateral nystagmus was most marked when he looked to the left side. The pupils were of equal size, and reacted to light and accommodation. The hippus was irregular as to time and degree, was not synchronous with respiration, pulse, or nystagmus, and was not altered by looking to the right or left. The nystagmus was increased by active movements, especially in coming down stairs and in turning suddenly to the right. The knee-jerk was normal.

Episcleral Faradization and Galvanization of the Ocular Muscles.—Eulenburg ("Ctrlbl. f. prakt. Aug.," March, 1887) advises the use of a new electrode devised by Hirschmann, of Berlin, for application to the ocular muscles. It consists of a flexible, oval platinum plate, 8 mm. long and 6 mm. wide, attached to a slender shank 20 mm. long, which is inserted in a brass cap. The electrode is fixed in a handle 10 cm. long, at the lower end of which is a binding-screw for connection with the battery, and the handle is also provided with the usual apparatus for breaking and opening the current. In applying the faradic or galvanic current to the affected muscles, the eye is at first cocainized. The platinum plate is then at once brought in firm apposition with the desired spot, and then the other electrode, in the form of a large round plate, is placed upon the sternum or the palm of the hand, and then the current is allowed to pass by opening the connection. The current may be allowed to pass continuously for from one to two minutes without producing an ill effect. Eulenburg has never succeeded in producing any excursive movements in the galvanized muscles even with this improved apparatus, and therefore does not think that this episcleral irritation of the ocular muscles will have any value as a means of exploration in cases of paralysis of the ocular muscles.

Double Dacryoadenitis.—Caudron ("Rev. gén. d'ophthal.," Jan. 31, 1887) reports a case of this kind in a woman, aged thirty-four, of rheumatic constitution, whom he first saw with an inflammatory swelling of the right lacrymal gland of ten days' duration. The pain was intense and of a throbbing character, and the upper lid was intensely swollen. The enlarged gland projected at the upper external angle of the orbit. The left lacrymal gland had become inflamed several days subsequently, and presented the same symptoms, but to a less degree. The patient for more than six months had been subject at her menstrual epochs to a swelling of the upper lids which lasted for several days, and which was confined to the region of the lacrymal glands.

Secondary Transplantation of Skin-Flaps without Pedicles, and their Value in Blepharoplasty.—Wicherkiewicz ("Arch. für Ophthal.," xxxii, 4) makes a strong plea for a more extended employment of this method of operating. Before the operation, the patient must take a complete bath and put on clean under-clothing. The eyelids, lashes, and surrounding region of the face are then to be scrubbed with an aseptically clean sponge and soap, and then bathed with a solution of corrosive sublimate (1 to 1,000). The conjunctival sac is then to be irrigated with a sublimate solution of 1 to 10,000. An incision is then to be made parallel to the ciliary margin of the everted lid through the skin as far as the fascia for the whole length of the lid. From the ends of this incision a curved incision is made through healthy skin, which shall include all cicatricial tissue and adhesions, and this is then excised. The edges of upper and lower lids are then united by sutures for a distance of ten or twelve millimetres. When all bleeding has ceased, the wound-surface is irrigated with a cold solution of carbolic acid, and then covered with a piece of Billroth's iodoform gauze and absorbent cotton. Both eyes are then covered with a piece of gauze soaked in a sublimate solution of 1 to 1,000, and bandaged. From the second to the fifth day the transplantation is to be done. The portion of the patient's body from which the flap is to be taken is to be carefully washed with soap and the sublimate solution (1 to 1,000). The bandage is then to be removed from the eyes under the carbolized spray. A pattern, cut from aseptic muslin, is then to be made from the space to be filled, and a flap, some millimetres larger in every direction, is to be cut from the skin of the arm and dissected up, care being taken to preserve the subcutaneous cellular tissue. This flap is then placed with the skin surface downward on the finger and thumb of one hand, and irrigated with boiled distilled water, during which the operator removes with the scissors all adipose and connective tissue. The flap is then carefully placed upon the raw surface to be filled, and fastened in place by four sutures. Great care should be taken that the flap lie as smoothly as possible. The parts are then covered with a piece of tin-foil that has been thoroughly boiled, and over this a layer of absorbent cotton and iodoform gauze. A bandage is then applied over both eyes. If there is no discharge, the bandage is to be left undisturbed for six or seven days. Blepharorrhaphy is, if possible, to be avoided.

Transplantation of the Cornea.—Von Hippel ("Rev. gén. d'ophthal.," Sept. 30, 1886) reports another case of successful transplantation of the cornea. The patient was a young girl, aged seventeen, who had a corneal leucoma from an ulcer in early childhood. The opacity measured four millimetres in diameter, entirely obscured the pupil, and affected the vision so seriously that even with a dilated pupil the patient could only count fingers at two metres. With a circular trephine four millimetres in diameter, the entire opaque cicatrix was excised down to the membrane of Descemet, and removed with knife and forceps. The hæmorrhage was controlled by iced applications of a solution of mercuric bichloride. The same trephine was then used to excise a piece of a rabbit's cornea through its entire thickness. This was at once placed in the wound, which it completely filled. The conjunctival sac was then carefully irrigated with the same solution of bichloride, iodoform was dusted over the eye, and then both eyes were closed with a bandage. The wound healed rapidly. During the first few days there was slight cloudiness of the transplanted flap, but this disappeared at the end of the first week. Some punctate erosions of the epithelium and two small spots of infiltration near the lower margin of the flap appeared during the second week, but disappeared in two days. The bandage was removed at the end of the second week, and vision was then $\frac{20}{200}$ with a narrow pupil. At the end of eight months the flap was still transparent.

Contribution to the Subject of Glaucoma.—Rheindorf ("Kl. Mon. f. Aug.," April, 1887) offers the following hypothesis of the pathogenesis of glaucoma: 1. He regards primary glaucoma as merely the expression of an obstructed exit of the intra-ocular fluid from the posterior to the anterior segment of the eyeball, caused by a thickening of the zonular diaphragm. 2. He regards secondary glaucoma as the expression of an increased secretion in consequence of local irritation of a section or part of the uveal tract, especially of the ciliary body and processes. There is thus no similarity between the nature of primary and that of secondary glaucoma, although the one symptom of increased tension, with its consequences, is common to both. It is possible, however, that in primary glaucoma the increase of tension begins in the posterior segment of the globe, while in secondary glaucoma it begins either in the vitreous or in the anterior chamber. The author seeks the cause of the advancement of the lens in a condition of the zonule. If we assume that glaucoma is a secretory neurosis, a hypersecretion of the vitreous, what would prevent the exit of the fluid through an intact zonula, and thus an equalization of the contents of the vitreous and of the anterior chamber? The worst that would be produced would be an increase of the entire contents of the eyeball, but not of a segment of it. Rigidity of the sclera and obliteration of Fontana's space would not explain the symptom; on the contrary, we should rather expect a deepening of the anterior chamber. With a narrowing of the circumlental space by an increase in width of the lens, the zonula remaining intact, the current would pass more rapidly through the narrowed channel of exit. The advancement of the lens is always the primary symptom, while the inflammation is the secondary one. Hence Rheindorf regards this advancement of the lens, and the consequent strain on the ciliary processes, as the cause of the glaucomatous inflammation. He regards the mydriasis as a purely mechanical symptom caused by two factors. When the point of increased secretion of the intra-ocular fluids has been reached, the ocular capsule must tend to assume that form in which it possesses the greatest capacity—that is, the globular form—and must also tend to equalize the sclero-corneal angle. Hence a strain is exerted upon the peripheral attachment of the iris in a centrifugal direction. If, now, the iris is pushed forward by the advancing lens, and drawn tightly over the latter like a cap, the pupil is stretched out and expanded, and the iris is thinned. Hence mydriasis and thinning of the iris can only occur when the lens is pushed forward. An explanation of the loss of sensibility of the cornea in acute glaucoma is more difficult to give, but Rheiudorf thinks that it is certainly not a phenomenon of pressure. It is, perhaps, due to some alteration in the terminations of the corneal nerves due to inflammatory changes in the cornea in acute glaucoma.

Contribution to the Doctrine of Glaucoma.—Jacobson ("Archiv für Ophthal.," xxxii, 3) in this paper discusses the various theories that have been advanced as to the causation and pathogenesis of glaucoma. In regard to the connection existing between increased tension and glaucomatous excavation, Jacobson states as a fact that in an acute glaucomatous eyeball the tension, even after enucleation, remains much above normal, until evident signs of evaporation appear on the surface. He also calls attention to two additional circumstances: 1. In many cases of chronic glaucoma, after an iridectomy has been done and the anterior chamber emptied, by a slight pressure on the lid a clear, colorless, or slightly yellowish fluid can be pressed out for some minutes. 2. In many cases of chronic glaucoma, on the removal of the bandage twenty-four hours after the operation, the anterior chamber is found deep, the aqueous humor clear, and the wound apparently well closed, but the entire conjunctiva chemotic. Both these appearances are due to a pathological collection of free fluid in the periphery of the vitreous chamber. Jacobson also believes that in an acute attack of glaucoma, during the period of increase of tension, the papilla may sink back before the vessels at the edge deviate from their plane or level. In chronic glaucoma the excavation is the consequence of an increase of tension, which is neither continuous nor of a high degree, and is shown, not by coarse, demonstrable changes in the vessels in the iris or refracting media, but by a gradual sinking backward of the optic papilla. The origin and development of the excavation are the same, whether the glaucoma is acute or chronic. The periodical obscurations of vision are due to obstructions in the arterial current to the retina. The colored rings seen by the patient are due to anomalies of refraction, and are also dependent on the chorioidal circulation. Both symptoms appear simultaneously and belong together. Jacobson considers that if the assumption that the vitreous chamber of the glaucomatous eye is too full is correct, then we should naturally look *a priori* to venous chorioidal stasis as the most probable cause of a transudation into the vitreous. Inasmuch as we now refer the causation of the colored rings and the periodical obscurations of vision to circulatory disturbances in the region of the chorioid, it is not too much to assume that the causes of the prodromal symptoms are at the same time the most probable causes of the increased tension. Similar varieties of excavation and similar functional disturbances point to a close relationship between acute and chronic glaucoma, and to a dependence of the function upon the excavation. As long as the media are clear, slight obstructions to the circulation will be overcome or made harmless by collateral channels (glaucoma simplex); but when the media begin to be cloudy, either the course of the circulation in one direction is blocked or the limit is passed up to which a slowing of the current without transudation may be brought. Jacobson does not think that the arterial pulsation in glaucoma can be explained by the increased tension alone; diseases of the circulatory apparatus are a necessary condition for its production. These primary conditions act upon the blood-current in the choroid in the same way as they do on the current in the retina, and their consequences are a lower arterial pressure, passive hyperæmia, and dilatation of the capillaries and veins. The numerous vascular anomalies in the retinal picture of chronic and advanced acute glaucoma consist in dilatation, distortion, stopping of the caliber of the veins, with or without hæmorrhages, and in diminution of the visible arterial contents, with or without sclerosis of the vascular walls. They are usually consequences of bodily diseases, the influence of which the chorioid, as well as the retina, has to bear. It is a well-known fact that by small doses of atropine, homatropine, and cocaine in concentrated solutions, acute glaucoma may be produced, and again safely and permanently cured by eserine. In Jacobson's opinion, as soon as mydriatics have entered the anterior chamber they exert a paralyzing, dilating effect upon the vessels, which suddenly retards the rapidity of the blood-current. If there are present any local or general conditions favoring a slow movement of the venous blood—such as old age, climacteric congestions, sclerosing inflammatory action, etc.—the sudden stasis is followed by an excessive transudation. Closure of Fontana's space by the lens is not possible. The immediate consequence of the sudden crushing of the anterior segment is a profuse hæmorrhage from the vessels of the anterior segment of the choroid, by which laceration of the vessels, compression of the larger veins by extravasations, and obliteration of the veins by coagulated blood, can scarcely be avoided. This closure of a large blood-current and the consecutive dilatation of still permeable veins is followed by transudation into the vitreous, which in the second stage can not be distinguished ophthalmoscopically from the diffusely cloudy vitreous of chronic inflammatory glaucoma. The cause of the glaucoma is the violent interruption of the circulation in the vascular anterior segment of the chorioid. The retention hypothesis alone does not explain the increased tension, for the closure of Fontana's space, as demonstrated by Knies, and its most important factor, may be wanting in pronounced glaucoma. Nothing is known of pathological changes in other lymph-channels. Jacobson regards it as all-important to determine positively from a pathologico-anatomical standpoint whether constant changes are always found in undoubted glaucomatous eyes, which may be connected with increase of tension, and of what nature these changes are. An iridectomy diminishes the stasis of the venous blood in the iris, when the current through the vasa vorticosa is obstructed, and consequently makes room for the current of choroidal blood to the iris. If the continuity of the iris is broken, stasis in the chorioidal vessels can never reach the degree with which acute glaucoma begins. The more recent the process, the more normal the iris tissue, the more sure is an iridectomy as a protector against venous stasis. Primary acute glaucoma is the expression of an extensive venous stasis in the anterior segment of the choroid, with consecutive acute œdema. Primary glaucoma simplex is the expression of a gradually progressive retardation of the chorioidal circulation with exudation of a fluid into the vitreous chamber of a similar optical quality.

Miscellany.

The Woman's Medical College of Philadelphia.—The thirty-eighth annual session was opened on Thursday, the 6th inst. The introductory lecture was delivered by Dr. W. W. Keen.

The Woman's Medical College of Baltimore.—The opening address of the sixth session was made on Wednesday, the 6th inst., by Dr. Joseph T. Smith, who spoke of the benefits of the microscope to medical science. Dr. Richard H. Thomas, dean of the faculty, spoke of the effect that the study of medicine had in broadening the mind. Dr. Henry M. Thomas has been appointed lecturer on nervous diseases.

The Volunteer Medical Association, of Philadelphia, has elected the following Executive Committee: Dr. L. J. Deal, Chairman; Dr. Addinell Hewson, Jr., Dr. J. M. Baldy, Dr. H. H. Kynett, Dr. Charles Penrose, Dr. Orville Horwitz, Dr. W. Christie, Dr. H. Augustus Wilson, and Dr. E. L. Vansant.

"The Engineering and Building Record" is now the title of the paper hitherto known as "The Sanitary Engineer," the old name being retained as a sub-title. On making this change it says editorially: "We have decided to change the name of this journal to the title given in this issue. It is not intended to change the character of the paper. Our object is simply to convey by the first part of the name adopted the scope of the matter it regularly gives its readers."

The City Board of Health recently passed the followed resolutions:

Resolved, That on and after October 1, 1887, the consideration of all diseased animals coming under the jurisdiction of this department be and is hereby referred to the Division of Contagious Diseases of this department.

Resolved, That on and after October 1, 1887, Dr. Cyrus Edson be and is hereby transferred from the position of chief inspector of food and chemical analysis to that of chief inspector of contagious diseases, and that his salary be increased to $3,000 per annum.

Resolved, That on and after October 1, 1887, the position of chief inspector of food and chemical analysis in this department be abolished, and that Mr. E. M. Martin, the chemist of the board, be given charge of the duties of that office, and that his salary be increased to $2,000 per annum.

Resolved, That on and after October 1, 1887, Mr. E. M. Martin be and is hereby directed to report to this board a plan of action which shall contemplate a careful scrutiny of all food and drink commodities of this city, for the purposes of detecting the existence of diseased or adulterated conditions of them.

The Health of Boston.—During the week ending Saturday, October 8th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 24 cases and 8 deaths; scarlet fever, 46 cases and 1 death; typhoid fever, 48 cases and 6 deaths; measles, 3 cases. There were also 30 deaths from consumption, 17 from pneumonia, 8 from heart disease, 14 from bronchitis, and 19 from marasmus. The total number of deaths was 182, against 191 in the corresponding week last year.

The Health of Michigan.—According to a summary of returns to the State Board of Health for the four weeks ending October 1st, diphtheria was reported from fifty-one places, scarlet fever from twenty-one, typhoid fever from forty-six, measles from five, and small-pox from one place.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending October 6th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending September 17th corresponded to an annual rate of 18 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Derby, viz., 15, and the highest in Preston, viz., 27 in a thousand. Small-pox caused 9 deaths in Sheffield, 1 in Liverpool, and 1 in Cardiff.

London.—One thousand two hundred and sixty-six deaths were registered during the week ending September 17th, including 22 from measles, 57 from scarlet fever, 20 from diphtheria, 53 from whooping-cough, 17 from enteric fever, 73 from diarrhœa and dysentery, and 2 from cholera and choleraic diarrhœa. There were 142 deaths from diseases of the respiratory organs. Different forms of violence caused 37 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 15·7 in a thousand. In greater London 1,595 deaths were registered, corresponding to an annual rate of 15·4 in a thousand of the population. In the "outer ring" 27 deaths from diarrhœa, 10 from whooping-cough, 6 from diphtheria, and 2 from scarlet fever were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending September 17th in the sixteen principal town districts of Ireland was 25·9 in a thousand of the population. The lowest rate was recorded in Newry, viz., 3·5, and the highest in Kilkenny, viz., 38·1 in a thousand.

Dublin.—Two hundred and thirty-two deaths were registered during the week ending September 17th, including 8 from measles, 3 from whooping-cough, 2 from scarlet fever, 1 from enteric fever, 2 from diphtheria, 33 from diarrhœa, and 2 from dysentery. Diseases of the respiratory organs caused 23 deaths. Four accidental deaths were registered, and in 29 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 34·3 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending September 17th corresponded to an annual rate of 18·7 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 12, and the highest in Paisley, viz., 26·5 in a thousand. The aggregate number of deaths registered from all causes was 467, including 17 from scarlet fever, 3 from diphtheria, 19 from whooping-cough, 11 from fever, and 55 from diarrhœa.

Denmark.—The Danish Government has issued an order, under date of the 6th of September, 1887, that ships coming from, or having had intercourse with ships coming from, infected ports, are subjected to quarantine, and the importation of old linen, bedding, clothing, rags, etc., from infected or recently infected ports is prohibited.

Malta.—The United States consul, under date of September 12th, in his dispatch relative to cholera states that "the hope that has been entertained that the disease would soon disappear, based on the gradual decrease in cases a few days back, has not been realized, for, on the contrary, there has been a slight recrudescence. From September 1st to September 12th, inclusive, there have been 82 cases and 28 deaths, and 29 deaths have been registered during the same period from cases previously reported."

Palermo.—The United States consul, under date of September 5th, with reference to cholera, states that "the disease has considerably decreased, the cases and deaths during the week ending the 4th instant being only 81 and 52, respectively, a decrease of 45 cases and 20 deaths compared with those reported during the preceding week."

The consul, in his dispatch under date of September 12th, states that "86 cases of cholera and 47 deaths occurred therefrom during the week ending the 11th instant, an increase of 5 cases and decrease of 5 deaths compared with the preceding week. The disease obtains in nearly all the seaport and many of the interior towns of the island, but thus far has not been severe at any point. The papers of yesterday announce 63 cases and 23 deaths within fifteen hours at Messina. Cholera has also made its appearance at Grotte and Teapani, within this district, some time since."

Florence.—The United States consul telegraphs, under date of October 4th: "Suspected cases cholera at Cagliari."

Gibraltar.—The secretary of the board of health reports, under date of September 8, 1887, that the board have decided to impose a quarantine of ten days on arrivals at that port from Sardinia.

Santiago de Cuba.—The sanitary inspector reports that "the first case of the epidemic of small-pox now prevailing was imported from Havana about five months ago, and that 1,204 deaths have been registered since that time, and the number of those attacked, so far as known, has been over 2,000. The epidemic is now, however, rapidly declining, owing to the measures taken by the municipal authorities to make vaccination and revaccination compulsory.

"Yellow fever has been almost entirely confined to the military hospital, a building located in the suburbs, on the highest hill around the city proper, and about half a mile from the port. The total number of deaths for the last three months has been 273, and those attacked 365, the majority of whom were unacclimated recruits. The troops have been now taken into the country, and the cases of fever have become rare. The shipping has been entirely free from it."

Naples.—The United States consul, under date of September 14th, states that "the number of cases of Asiatic cholera in the city of Naples from the 3d of September to the 13th of September last, both days included, were 117, of which 77 were followed by death. The entire country surrounding Naples is quite infected with cholera, but it is impossible to ascertain the exact truth, as the authorities are very reticent in regard to the actual state of affairs."

Rome.—The United States consul-general, under date of September 8th, with reference to cholera, states that "from August 25th to September 8th, inclusive, there have been in this city 109 new cases and 56 deaths. Since my dispatch of August 25th there have been further cases of cholera at Tivoli and various villages of the province. The precise number of cases is not obtainable, but the mortality is said to be about 60 per cent."

Messina.—The United States consul, in his dispatch dated September 13th, states that "with regard to the cholera in Messina this summer, I have the honor to report that a refugee from Catania arrived in this city July 4th, and died of cholera two days later. His nurse died on the 10th, whereupon the authorities ordered a thorough cleaning up and disinfecting of the streets and lanes, and prohibited, the sale of stale meats, fish, vegetables, and fruits in the market. Two other imported cases of cholera, both of which proved fatal, occurred during the month of July. August 6th I telegraphed to the department 'yesterday 3 deaths from cholera, originating here.' These cases greatly alarmed all classes, and a general stampede from the city followed. The retail trade of Messina has suffered seriously from this exodus, and as the Mediterranean countries established quarantines of from 5 to 21 days against arrivals from Sicily, the movement of foreign shipping has been small this summer. Up to the 10th instant the port authorities continued to give clean bills of health. The record of cases and of deaths from cholera in the province of Messina from July 4th to September 8th is 71 cases and 45 deaths, of which 55 cases and 34 deaths occurred in the city of Messina. From August 28th to September 8th but two cases of cholera have occurred; the sanitary precautions were suspended and, confidence being restored, thousands of refugees returned to the city for the municipal election, September 8th. Cholera reappeared in an aggravated form on the 10th instant. From Saturday morning to Monday midnight 158 cases and 66 deaths have been reported."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	September 3.	2,260,045	904	..	....	9	....	35	....	27
Paris	Septemb'r 10.	2,260,045	842	..	....	7	....	42	5	19
Paris	Septemb'r 17.	2,260,045	893	..	....	6	....	27	1	17
Glasgow	Septemb'r 17.	545,678	193	..	....	....	....	5	6	1
Warsaw	Septemb'r 10.	439,174	289	..	...	18	....	....	11	8
Calcutta	August 13.	433,219	163	12	....	....	...	....	...	....
Calcutta	August 20.	433,219	184	11	....	....	....	....	....	....
Amsterdam	Septemb'r 17.	378,686	139	..	...	....	....	1	....	4
Rio de Janeiro	August 27.	300,000	411	..	....	181	....	2	....	8
Rio de Janeiro	September 3.	300,000	419	..	1	170	....	2	....	3
Munich	Septemb'r 10.	269,000	171	..	....	....	....	2	1	6
Edinburgh	Septemb'r 17.	258,629	81	..	....	....	....	1	3	....
Palermo	Septemb'r 18.	250,000	123	35	....	....	....	1	3	1
Belfast	Septemb'r 17.	224,492	95	..	....	....	....	2	3	....
Havana	Septemb'r 22.	208,000	165	..	4	49	....	4	....	....
Genoa	Septemb'r 17.	179,483	65	..	....	1	2	....	....	1
Leipsic	Septemb'r 17.	170,000	68	..	....	....	....	1	....	6
Trieste.	September 9.	150,157	94	..	....	6	....	....	1	2
Stuttgart	Septemb'r 17.	125,570	40	..	....	....	....	....	....	1
Toronto.	October 1.	120,000	24	..	....	....	....	1	....	2
Havre	Septemb'r 17.	112,074	91	..	....	....	....	25	....	....
Leghorn	Septemb'r 18.	101,357	60	..	....	....	....	1	....	....
Reims	Septemb'r 17.	97,903	44	..	....	....	....	2	....	....
Leith	Septemb'r 17.	72,297	35	..	....	....	....	....	1	....
Mayence	September 3.	65,701	21	..	....	....	....	....	1	1
Cienfuegos	Septemb'r 19.	35,464	25	..	3	1	....	1	....	....
Cienfuegos	Septemb'r 26.	35,464	13	..	1	1	....	....	....	....
Vera Cruz	Septemb'r 22.	23,800	22	..	1	....	....	....	....	....
Gibraltar	Septemb'r 10.	23,631	10	..	....	....	....	1	....	1
Guayaquil	Septemb'r 15.	30,000	41	..	....	9	....	....	....	....

New York Quarantine—Cholera.—The following communication has been received from Dr. William H. Smith, health officer at the port of New York, under date of the 5th instant:

"The steamship Alesia, from Marseilles, August 29th, and Naples, October 3d, with most of her cargo taken at Marseilles—at Naples she received her cargo by lighters—arrived at this quarantine, and was inspected the morning of September 23d. The report of the surgeon showed that there had been eight deaths on board, six of which were unquestionably cholera. All the cases reported were fatal. Four cases were found in hospital sick with the disease, and four cases were discovered when inspecting the passengers. I may here refer to the fact that the bill of health from the consul at Naples declared that 'there had been many cases of cholera at Naples and vicinity for the last five weeks. The exact number could not be ascertained. The mortality of those attacked is 70 per cent.' (Consular bill of health.) The well passengers were removed the same day to Hoffman Island for observation, and the sick to Swinburne Island Hospital. The number of cases on board on arrival was eight; twenty cases have developed among the passengers since they have been under observation to this date; five of those removed from the vessel have died and three recovered. Of those that have developed while in quarantine, nine have died, four have recovered, five are convalescent, and the remaining two are now seriously ill. The disease has been very virulent and rapid in its fatality in a majority of the cases; in several instances patients that were well at inspection in the afternoon were nearly or quite pulseless within twelve hours. At this date there has been no development of cases among the immigrants for the past two days. The steamer was twice washed with scalding water from the boilers through the hose in every accessible part, and immediately after this washed in every part with a solution of corrosive sublimate, two parts to one thousand. The hatches had been closed and sealed and covered with tarpaulin before the passengers were taken on board, except three cabin passengers, taken at Marseilles. All the immigrants were removed to Hoffman Island. Immediately subsequent to the washings with the solution of mercuric chloride, after breaking out the cargo to the bottom of the hold, one hundred pounds of sulphur was burned in the hold, the hatches of the spar-deck being closed for ten or twelve hours. The disinfection by the solution before mentioned was the next day repeated, every accessible portion of the vessel being washed with it by brooms or sponges, followed by the combustion of one hundred and fifty pounds of sulphur, the hatches being again closed until the following morning. Every textile fabric—carpets, mats, the dunnage and clothing of the crew—was immersed in boiling water for a considerable time by the introduction of steam through hose attached to the boilers. Finally, all exposed portions of the steamer, except the saloons, including the forecastle, were repainted. The steamer was detained in the lower bay fourteen days. The well passengers were removed to Hoffman Island for observation, and the sick to Swinburne Island Hospital the day of their arrival at quarantine. The cleansing and disinfection of the baggage of the immigrants commenced immediately thereafter. A large tank that can be securely closed, having a perforated pipe, and extending from the bottom to the under side of the lid, and connecting with a large boiler used for heating the buildings, is used in part for the disinfection. Two rooms, fifteen by twenty feet each, made as close as possible, are used to disinfect by the combustion of sulphur. Each piece of baggage and every article of clothing have been subjected to sulphurous-acid gas thus produced for several hours, in the ratio of three pounds to each one thousand cubic feet of air-space. The disinfection by moist-steam heat has been at the same time constantly in progress; the clothing is subjected to this process for at least three hours. Barrels of a solution of bichloride of mercury of the strength before mentioned are placed in the closets and used to wash them after the dejecta of each person has been removed by the flush from the tanks above the hopper of the closet. Every day the floors of the large buildings, each fifty by about one hundred and fifty feet, are washed with a solution of the same article. To-day the subjection of each and every article of baggage has been again commenced, and will be continued until all articles have been again disinfected by the means mentioned. For two days past no new cases have developed. It is well to state that the first cases on the Alesia developed the ninth day after the steamer left Naples. It is as yet an open question whether the cases that have developed on Hoffman Island arose from infection contracted from the same source that gave rise to the deaths on board the steamer, or from sources that were transferred to Hoffman Island with the passengers. There is every reason to believe at this writing that the infection among the immigrants is destroyed, except, possibly, that its development may be exceptionally long delayed in cases which may occur."

UNITED STATES.

Key West, Fla.—Yellow Fever.—Dr. J. Y. Porter, president of the board of health, reports by telegraph, under date of October 6th, that 3 cases have been reported since September 30th at the village of Progresso, two miles from the city, making for the month of September 6 cases and 1 death. None since. The epidemic is over.

LATER.—*Tampa, Fla.*—October 7th, 20 cases and 4 deaths from yellow fever were reported. A panic prevails in the city.

ANSWERS TO CORRESPONDENTS.

No. 55.—Topical treatment is usually sufficient.

No. 56.—The paper you mention was read at the Congress. The form of publication that you suggest has been followed in the case of previous meetings, and it is announced that it will be carried out in the case of the Washington Congress.

No. 57.—The words morphia, atropia, and the like, were formerly the official titles of morphine, atropine, etc., in the United States and British Pharmacopœias, but that is no longer the case, morphina, atropina, etc., having been substituted.

No. 58.—The French edition is much to be preferred. It was published by Masson, in 1875. The whole of the original work is contained in it, whereas it was decidedly curtailed in the English translation; moreover, the French translator's notes are exceedingly useful.

No. 59.—The deodorized tincture of opium of the United States Pharmacopœia is probably an equally good preparation.

No. 60.—You will find Ott's article in the "Archiv für Gynäkologie," vol. xxvii, No. 1. Accept our thanks for the pamphlet.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

WHAT IS ANATOMY?

A LECTURE DELIVERED, OCTOBER 5, 1887, AT THE OPENING OF THE ANATOMICAL COURSE AT THE MEDICAL DEPARTMENT, UNIVERSITY OF GEORGETOWN, WASHINGTON, D. C.

By FRANK BAKER, M. D.,
PROFESSOR OF ANATOMY.

In one of the many discussions that occurred during the sessions of the late International Medical Congress I was asked, "What is anatomy?" The answer to this is so important, and involves so much that will affect your future career, that I have thought that I could not do better than to make it the subject of the preliminary remarks by which I am to-night to introduce you to the systematic study of that great and wonderful science.

You, gentlemen, are the successors of a long line of students; a vast army has marched over this road, leaving it well worn by their footprints, and carving their names here and there by the wayside. Many will report that the study of anatomy has been a toilsome task, dreary and uninteresting, already more than half forgotten. To others, on the contrary, it has been a garden of delights. Over this road have passed, among innumerable throngs of those now unknown, the great and mighty dead masters of the science: Vesalius, who, while yet a boy, dared both the terrors of the law and the horrors of a superstitious and ignorant age, and climbed by night a gallows-tree to obtain the first complete human skeleton ever prepared in Europe; Harvey, who, from the laborious investigations of years, deduced the anatomical facts which led to his splendid discovery of the circulation of the blood; Bichat, who died at the early age of thirty-one from prolonged and unremitting exposure to the infected air of the dissecting-rooms of that period, storming the ramparts of disease and dying for a noble cause as truly as the soldier who falls "in the imminent deadly breach," not, however, until he had revolutionized pathological anatomy, and set upon a firm basis the law which rules our therapeutics to-day—that the action of disease is merely an exaggeration of the ordinary healthful activities of the body, that the difference between health and disease is one of degree rather than of kind; Schwann, who patiently worked with his microscope day after day, month after month, and year after year, pursued by poverty, until he finally was able to make that incomparably important generalization that the entire human body was built up of discrete particles of protoplasm called cells, each of which had an independent activity; John Hunter, whose discoveries were legion, and who devoted his entire fortune and time to the study of anatomy, founding and almost creating the splendid Hunterian Museum of London, unequaled in some respects by any other in the world; and an army of others—Eustachius, Fallopius, Sylvius, Willis, Malpighi, Albinus, Meckel—devoted men, who spent long years in careful investigation, but have now passed away, leaving to us their names scattered over the structures of the body. There must have been something interesting about anatomy to excite the enthusiasm and hold the attention of these men, often in spite of trial, privation, and suffering.

"What is the nature of this interest?" you will ask. At the outset of his career every thoughtful man meets in his path the solemn-visaged sphinx of destiny, who puts to him riddles like these: "What are you?" "Whence do you come?" "Whither are you going?" Many a noble mind has destroyed itself in vain endeavor to answer these. The science we are about to pursue concerns itself with these questions, never fully answering them, it is true, but groping and searching with glimmers of light ahead. As a general definition I might answer the query, "What is anatomy?" by saying that it is the science of structure—that is to say, that it treats of the structure of our bodily frames, the history of that structure, its relation to other similar structures, and its possibilities for the future. Surely, since the pythoness engraved on her temple at Delphi the immortal words "Know thyself," there has been no branch of knowledge which can presume to surpass this in interest and value.

It is true that the full scope of anatomy has not always been understood. The very etymology of the word shows us that it first stood for the mere art of cutting apart, or dissecting. So we find that the early anatomists contented themselves with examinations without much consideration of the significance of what they found. The science of that day was much distorted by the prevalent notion that it was more important to *reason* well than to *observe* well. A few observations, backed up by subtle and ingenious logic, were considered sufficient to complete knowledge, therefore but little attempt was made to ascertain the facts of human structure; and, public prejudice and religious teaching being against the dissection of bodies, it was considered sufficient to deduce human anatomy from an examination of the bodies of animals.

The treatises made at this period were considered so exhaustive and complete that any emendation of them, any extension of the science beyond the bounds set by Galen and Marinus, caused a shudder of horror like that felt when a navigator proposed to pass beyond the pillars of Hercules into the unknown ocean. For over a thousand years an idea that this was all of anatomy prevailed in the world; men were so utterly dead to any proper comprehension of the scope of the science that it was declared by one school that it was utterly valueless, and that the study of it interfered with a thorough knowledge of the theory of medicine.

But when the dark cloud which settled down upon Europe after the decadence of the Roman Empire and the irruption of the northern barbarians began to lift, when the great hordes of Attila and Alaric had been worked over and modified by the influence of southern civilization, men began to ask questions of Nature in every direction, and anatomy came in for its full share. They asked first, Are we really sure how the human body is made? Have we not been taking for granted the inaccurate observations of those who never really examined the body at all? It was soon found that this was so. Vesalius set every anatomist in Europe to work with the scalpel, and there was soon elaborated a body of gross descriptive anatomy very much as we have it to-day.

The practical importance of this revival of interest was very great. For the first time surgery was placed upon a sure foundation. The actual form and relations of organs being known, operations relating to them became possible. It could be ascertained when and how far surgical interference was proper. Amputations could be done in a scientific manner, tumors could be removed, ligations practiced, operations of various kinds invented. While before all was guess-work, and the art of the surgeon was combined with the effrontery and hocus-pocus of the charlatan, now precision was possible, and the most expert was the one who had become the best acquainted with the human body by dissection. Soon the realm of medicine was also invaded. Auscultation, percussion, and other modes of physical examination based on anatomical considerations were adopted; anatomy was brought to the elucidation of symptoms, of causes of disease, and of the changes which it effects in the system. The great branch—pathological anatomy—grew off from the parent stem, and began to bear fruit. It is needless for me to dwell at this time upon this aspect of our great science; you will have occasion throughout the course at every lecture to consider the practical results which arise from anatomical facts. Anatomy furnishes the wheels upon which runs the thought of the scientific physician, the plan of the works by which he calculates the approach of the enemy Disease, and devises the means for meeting him.

Here, again, there has been shown a tendency to rest satisfied with the achievements of the science. Many books have been written upon purely descriptive anatomy, and it would seem as if every nook and cranny of the human body had been explored and every device used to wrest from Nature her secrets. There are those even to-day who look upon our science as practically exhausted; there is for them nothing more to learn in it beyond the mere memorizing of the results of dimensions and relations obtained by the minute care of others. But as the Alpine climber often imagines that he has reached the final summit, and, on emerging to clear vision, still sees the real mountain stretching silently upward beyond his view, so the true votaries of science scale one height only to become conscious of the immensity beyond.

Formerly but little regard was paid to the differences which exist between individuals. The body of man was considered for practical purposes fixed and definite, to be described once for all. It is true that considerable deviations were sometimes found, occasionally extraordinary forms with a quite unusual arrangement of organs would excite a passing wonder; but these were passed over, without an attempt at rational explanation, as *freaks* of nature, as if the divine mother, weary of regularity, were in the habit of occasionally playing pranks like a mischievous school-boy. Other variations not quite equal to these would not infrequently puzzle a surgeon. An artery that ought by all anatomical rules to lie in a certain place would be found in another; a viscus would be strangely situated or of an unusual shape; a muscle would come to view never before described, and perhaps much in the way of the surgeon's knife. On examining still more carefully, it was seen that there existed a host of minor variations, too small to be any practical obstacle to the surgeon, which were nevertheless real. We recognize our friends by small differences in shape, color, and texture of bodily features. Similar differences extend through and through the body, so that there is no organ so small that they are not found in it. There is not only in man, but in all living things, a constant tendency to variation.

Let us examine as to the causes of this. First we notice that habits of life have a marked influence; the farmer, whose life is spent in the open air at rugged physical labor, can be told at once from the man who spends his life in his study; the soldier, whose training and life are on land, can be told from the sailor, whose training and life are on the sea. Examine carefully and minutely, and you will see that for every day and for each one of us the history of our lives is checked off upon our bodily frames with unerring accuracy,—with exact and even-handed justice. Each individual is affected by his surrounding circumstances, that whole body of influences that the French have characterized by the apt term *milieu*, which we somewhat clumsily translate "environment."

Besides this there is another series of differences due to age. All living beings pass through *phases* which affect their anatomical form. Each of us can remember a time when his body was smaller, less developed, less fitted for special and particular uses—more *generalized*, to use the proper term. We know from observation of others that this series of changes can be traced back to the time before our recollection, when we were born, brought into the outer world from a stage of intra-uterine existence, a helpless, puny creature, unconscious of thought, merely capable of the functions necessary to nutrition and growth, with undeveloped limbs and expressionless features. The anatomist carries this farther still, traces the growth of the child in its mother's womb and the different phases of its anatomical structure there, sees as he goes back to earlier forms that the different organs are more and more simple, that no limbs appear, that the little creature is nothing but two tubes applied to each other, that these tubes have arisen from disc-like membranes; finally, that these were formed from a single minute cell almost beyond the range of vision, a little spherule of protoplasm called the ovum. As we go backward there is less and less complexity of organization until a form of extreme simplicity is reached.

In an old Hindu fable Ammi says to his son: "Bring me a fruit of that tree and break it open. What is there?" The son said: "Some small seeds." "Break one of them and what do you see?" "Nothing." "My child," said Ammi, "where you see nothing, there dwells a mighty tree." So it is that in that little spherule, the human ovum, there exists the potentiality of a fully formed and developed man.

Can we trace this farther back? Yes, we find that our ovum, so pregnant with possibilities, is formed by the coalescence of two tiny cells derived from different individuals—

one male, one female; that these cells have each been formed from other cells of the parent body quite similar in all essential respects to those from which all cells of a growing body are formed; that they are, in fact, a part of the parent. And yet there is a wonderful property about these tiny cells. They are able to convey to the resulting product a tendency to reproduce the anatomical features of the parents. How this is done we know not; the wisest naturalists and philosophers have vainly endeavored to fathom the reason why each living thing should bring forth fruit after its kind, but as yet with small success. Even minute differences become hereditary; the chin of the Bourbons, the black brow of the Douglas, become family traits; and peculiarities like these extend throughout the entire anatomy not only of man, but of all things having life. Sometimes a transmitted peculiarity will lie dormant for one or more generations, reappearing after an interval as an atavism, or reversion to ancestral type.

There are, then, two classes of influences producing variation in anatomical structure—one due to environment, the second to heredity; but it will easily be seen that the two co-operate, that if the influences due to environment act long enough and strong enough they will sufficiently impress the parent organism to make it possible to affect offspring. This is the way that races of men have grown up. As the family enlarges it separates; one member goes to a mountainous country, and the stock descended from him become, by the transmission of stored-up impressions for generation after generation, hardy mountaineers, muscular, with long limbs and an enlarged lung surface capable of enduring fatigue and of breathing the rarefied air of great heights; another member goes to the lowlands, where he rarely sees a hill, and his posterity are a short-limbed, broad-hipped race, inclined to be fat and heavy. Precisely this took place in Europe. Switzerland and Holland were settled by peoples that can claim a common ancestry.

It might be stated that the influence of heredity is simply to multiply the influences of environment by acting through time. Nature abounds with illustrations of the tremendous power of small forces when acting through long spaces of time. The effect of the falling of a single drop of water is immeasurably slight, but by constant dropping the hardest of substances can be worn.

"Gutta cavet lapidem non vi sed sæpe cadendo."

And this is continuously acting now, and has been for countless ages. Every rain-storm cuts gullies, wears rocks, shapes the face of the globe. Everywhere we may hear

"The sound of streams that, swift or slow,
Draw down æonian hills and sow
The dust of continents to be."

Standing at Niagara, we see that the mighty chisel has cut a gorge hundreds of feet in depth and some miles in length; at the cañon of the Colorado, one which is half a mile in depth and hundreds of miles in length. The Archimedean lever that was to be long enough to move the world has been found—it is *time*.

Applying now this same cumulative effect of small forces to the explanation of the anatomy of man, what will be the result? If influences strikingly different have constantly acted for a long time, the result will be great variation; if the influences have been similar or have been operative for a short time, the variations will be slight. Hence we get first the varieties of man found in different parts of the same country, then the varieties which constitute nations, then races of men. In many cases history helps us by showing that our deductions are correct and that those we had classed together for anatomical reasons are really from a common stock. Thus while we are able to recognize, by certain anatomical characteristics of skin, hair, shape of skull, etc., a community of origin in those races known as the Indo-European, history confirms this view by showing that they all, no matter how diversely scattered, have migrated from a central stock that ages ago dwelt in the great central plateau of Asia.

But in our journey backward we soon leave written history. The lowest existing savages have an anatomical structure lower than modern Europeans, and upon the anatomical evidence alone we find that the early inhabitants of Europe were like them, or even below them, in this respect. You see here the skull of a modern European; look at the height and breadth of the frontal region, the almost perpendicular line of the face, the small zygomatic arches. Here is the skull of a New Zealand Maori; notice the low and narrow frontal region, the projecting jaw, the frightful prominence of the zygomatic arches like a beast of prey. Now bear in mind that each of these peculiarities carries in its train certain functional activities. A high and broad forehead means, other things being equal, more room for the brain; the projecting jaw and the deep temporal fossa indicate a powerful apparatus for grinding and tearing, the jaw here being not only for eating, but for biting; it is used as a weapon.

Here now is another specimen to which I wish to call your attention. It is the cast of a skull found at Neanderthal, in Germany, under such geologic circumstances as to leave no doubt of its immense antiquity. Compare this with the skull of the Maori. You will see at once that we have gone down still another grade. Look at this retreating forehead, this small cranial capacity, these enormous arches and ridges for muscular attachments. It is hardly comparable with the Maori skull, and we almost fail to imagine what low kind of being it could be that possessed such a cranium.

If not with the Maori, then with what? We are not limited in our investigations. The laws of variation by descent which I have stated to you apply to all living creatures. We come to the momentous question, Are there any creatures that resemble man? Look at this prehistoric skull and at these skulls of the existing anthropoid apes and you will see. The resemblances are striking. Here we have the same retreating and contracted forehead, the same overhanging arches, the same indications of terrible muscular strength. If we found resemblances like these between any two races at the present day, what should we think about them? Simply this: that they undoubtedly had a common ancestor.

Between these skulls there exists the same anatomical relation, somewhat wider it is true, as is shown between the lowest existing savage tribes and the highest civilized man of to-day. If we are to conclude from anatomical evidence that the Bushman and the European are of a common stock, that they sprang from some remote ancestor, so we must equally conclude, on precisely similar evidence, that from some far-off progenitor sprang two branches, one of which brought forth the lowest types of mankind, the other developed into the still more lowly orang, gibbon, and chimpanzee.

You will observe, gentlemen, that I speak to you as an anatomist and upon anatomical evidence only. This evidence is of extraordinary force. It might almost be said that we find an agreement bone by bone, muscle by muscle, nerve by nerve, and vessel by vessel, with differences only in relative size, shape, and proportion of organs. With evidence of any other character I have nothing to do. It does not fall to me to show the stupendous differences between the *functional activities* of man and those of the entire brute creation.

I leave to others to speak of his transcendent intelligence and mental power, which lift him immeasurably above even the highest of the lower animals; of the world-wide depths which separate the philosophy of a Plato, the sympathy of a Shakespeare, the invention of a Newton, the genius of a Napoleon, from the chattering ape. The differences in *degree* are as great as that between the thunder of Niagara and the murmur of a gutter-stream. It is simply my duty to point out to you certain anatomical facts, in order that you may hereafter be able to understand the discussion of many questions which will come up for consideration relative to the significance of structure.

The operations of the law of descent with variation by no means stop after we leave man. The same series of resemblances and differences are found throughout the animal and vegetable kingdom, the same laws of relationship can be worked out, so that we are led to the conclusion, by a mass of evidence overwhelming in amount and detail, that the entire world of living things has developed out of a comparatively few simple original forms, that the same progress from simple to complex that we saw operating in the development of the human embryo has been also operative on a scale where time is not measured by months or years, but by ages of incalculable length; that each of us, in fact, repeats in an abbreviated form in the development of his individual body the steps through which the race ascended in its path from dim, almost formless, activity up to its present station at the head of all living things. We thus look upon all creatures as inter-related and their structure as mutually interpretative.

This is of the greatest importance to us, for it enables us to solve many difficulties in human anatomy that would otherwise be insoluble. The means of investigating the human body are necessarily limited. The opportunities for studying the details of the development of the fœtus at an early stage are comparatively rare, the stages passed through by the human embryo from the first to the twelfth day have never been seen, yet we know, from the vast number of observations made upon lower animals, that there is no reason to doubt that those stages which occur in all the mammalian class occur also in man. Similarly in microscopic examinations, the evidence obtained from the higher *Mammalia*, is freely used to supplement and complete that obtained from actual examination of the tissues of man himself. The fact of similarity of structure and function between man and the animals near him underlies all recent investigations in histology, pathology, physiology, and therapeutics. For this, if for no other reason, it would be necessary for me to state to you the grounds on which the evidence rests. Think for a moment how overwhelming it is, how impossible to explain it on any other ground than identity of origin.

In order, then, to completely understand the structure of the human body, we must know something of the way in which it came to be built up, both during the vast period of time when it was gradually being developed by racial changes and in that shorter abbreviated recapitulation of those changes found in embryonic existence.

Let me illustrate how this may become useful to you. It is not infrequent to find persons born with some abnormity or wide variation of structure. These may usually be explained by what is called the law of reversion, the traits of long-forgotten ancestors reappearing in the offspring. So we see children born with hair covering the entire body, with an unusual number of fingers, with the viscera transposed, or with an arterial system like that of animals lower than man. Similar to these are cases where development has been arrested, such as hare-lip, spina bifida, exstroversion of the bladder, all conditions which at one time exist normally in every embryo.

In other cases we find the most extraordinary light thrown upon the normally existing peculiarities of the body. The valves of the veins, for instance, are little folded flaps of the inner lining of the vessels which fly back against the wall and allow the blood to pass toward the heart, but resist its return toward the periphery of the body. They are evidently useful for the purpose of counteracting the force of gravity, which would otherwise be a serious obstacle to the circulation of the blood. If it were not for these little breaks in the column, the law of hydrostatic pressure shows that the strain put upon the vessels of the legs and feet would be much more than they could endure. But are the valves arranged with that purpose clearly in view? We find them in the arms and legs, it is true, but they are wanting in the vena cava, the azygos veins, the portal and spinal veins, where they would be of the greatest use, as all are trunks that carry immense quantities of blood. Many disorders, such as varicose veins of the legs, and hæmorrhoids, can be distinctly traced to this absence of valves. On the contrary, we find them in a number of veins which run horizontally, such as the intercostal veins, where they can not, as far as we see, be of the slightest use, and finally in the jugular vein, where, instead of being useful, they are a positive hindrance to the rapid and effective return of the blood from the head to the heart.

This condition of things remained a complete puzzle to anatomists until Dr. Clevenger explained it a few years ago in the most beautiful manner. The whole apparatus is adapted for a quadrupedal position. Put man on all fours, as he walked in the early years of infancy and the early ages of time, and everything is explained. The vena cava, portal and spinal veins, are then all in a horizontal position, or nearly so; the intercostal veins lift the blood against the force of gravity, and must therefore have valves; the jugular vein being also inclined when a quadruped carries the head downward as in feeding, the same arrangement is necessary to prevent a venous congestion of the brain.

These, then, are all so many proofs that man has not always had the erect posture which he has now. To them might be added a multitude of other proofs: the tendency to hernia and to uterine displacements; the very shape of the pelvis, imperfectly adapted to the duplicate functions of supporting the viscera and of child-bearing; and the exposed position of the great vascular trunks of the thigh—all imperfections peculiar to man.

This naturally leads us to consider another class of evidence which is derived from what are known as vestigial organs. These are structures which have been of use at some previous period of racial history, but have ceased to be so owing to the change of habits and environment of the individual. There are many of these in the anatomy of man. The coccyx is the vestige of a tail, more of a tail by the way than is possessed by some of the apes; the vermiform appendix to the cæcum is the relic of a large diverticulum used for macerative digestion in some animals; the pineal body of the brain is probably the remains of a third eye possessed by some animals now extinct.

The muscular system has many of these organs which are tending to disappear. There is a delicate little muscle behind the knee called the plantaris. The fleshy part of it is often not larger than one joint of the little finger, and it sends a long, slender cord down to join the great heel tendon. By careful dissection it may be traced as far as the sole of the foot, uniting there with a thick, strong tissue called the plantar fascia. So insignificant as to be often overlooked by the dissector, it is not, as far as we are aware, of the slightest use. Its true value can not be understood until we examine it in other animals, where we often find it to be a powerful flexor of the foot, as large and strong as the other great muscles of the calf. There are many others equally puzzling until we get a clew from the lower forms. The pyramidales are two small muscles situated on the abdominal wall directly above the pubic bone. Anatomists have puzzled much over them, for they appear to be of little use, as they pass up for a short distance and lose themselves in the thick sheet of tough tissue which outwardly lines the abdomen. All that they can do in man is to pull this sheet tight and so help the deeper muscles in their work. In order to find their real significance we must go down to pouched animals, or marsupials—not such a very long way off in structure from man as you might think—and there we find that the pouch which holds the young is situated in this part of the abdominal wall and is closed by two muscles, performing an active and important office, which have precisely the situation and attachments of the pyramidales.

A single muscle may sometimes illustrate reversion, arrest, and disappearance. Here is a specimen found last winter in the dissecting-room of the college. It is a biceps muscle of the arm having the unusual number of four heads. Normally it has, as its name implies, two heads only, both going to the shoulder-blade, one to the coracoid process, the other passing through the capsule of the shoulder-joint and attached just above the rim of the socket. The two usual heads are here, as you see; there is, however, another attached to the lower third of the humerus, and still another which does not penetrate the capsule, but blends with its external fibers and can be traced running over the outside as far as the shoulder-blade. This appears at first sight to be merely an anatomical curiosity not worthy of serious consideration and of no practical value. In most treatises on anatomy no mention is made of such a variety. Yet on further examination we find the matter replete with interest. In climbing animals, where great strength of limb is required, the biceps has a third head inserted on the humerus. Further, what we call the long head, which passes through the capsule of the shoulder-joint, was originally external to the joint, passing directly over the capsule to its insertion on the scapula. As development goes on it gradually grooves the capsule, finally sinks into it, and becomes surrounded by synovial membrane. In this process, which may be noted in the human fœtus and which is arrested at different stages in different animals, independent fasciculi may become separated. Our fourth head, which went to the joint-capsule, was such a separated fasciculus. Finally we note that a still further stage is possible: that the fascicle which had penetrated the joint may become inactive and lose its anatomical characteristics. In that case it would become a band of ligamentous tissue representing the vestiges of what had been, and instances of this are known in other joints of the body, the ligamentum teres of the hip being a notable example. Our examination of this seemingly unimportant variation, instead of being profitless, has led us to most significant information regarding muscles that pass over joints and the interdependence of muscles and ligaments.

There is no page of anatomy that does not receive light from the laws of development; our anatomical history is recorded in our very bones. Comparing the structure of the bone of the upper arm, we find that in the early races of men it resembles that of the nearest animals in several particulars. In modern man the axis of the bone has been twisted about so as to bring the palm of the hand more nearly to the front. The twist amounts nearly to a half-circle. In prehistoric man it falls to 139 degrees or even less, and in apes to still less. In a similar way the tibia in many prehistoric skeletons is found to be flattened, or platycnemic, apparently for the better accommodation of muscles useful for climbing, resembling in this respect that of the apes. This is usually associated with a corresponding change of axis in the mid-ankle joint so that the sole can be turned inward more readily. Curiously enough, this same peculiarity of the ankle-joint exists in the human infant before it learns to walk. Observe a kicking baby of a few months; you will see it turn its foot inward, grasp and extend its toes in a manner significantly like that of a climbing animal. Preserve and develop this by training, and the foot becomes an efficient prehensile organ, as is shown in the Australian savages and Japanese rope-dancers.

Occasionally it happens that certain curious variations are found in the ribs of man. Instead of the ordinary twelve on each side, there may be thirteen, one being added above or below. Upon examining the development of the spine and the anomalies found in that region, a mass of evidence is brought to light, all tending to show that along nearly the whole vertebral column there are traces of ribs; that the original typical vertebrate animal had a rib on each side of each vertebra, and that man inherits that form.

From what I have said, you will readily perceive that anatomy is very far from having reached completion; you will see, indeed, that it never can be entirely completed. So long as man is changeable, so long as the laws of variation continue to operate, the science of anatomy will continue to develop. Taken in its wider sense, the science includes the structural history of every living creature, and so long as there is a gap yet left incomplete—and when can we hope to complete them all?—there will be work for the anatomist to do. In our special branch we shall pursue only the study of human anatomy, using the light thrown upon it by the history of development to illustrate and elucidate it. It will not be possible for us to consider even hastily the minutiæ of other zoological forms; those who wish to pursue studies of that character must seek them beyond the limits of a medical school. We will introduce our course by a consideration of the way in which organs are built up from the simple ovum to the complex adult form. Thus we can view the human body according to the strict logic of nature, and a great deal of the difficulty which otherwise besets the study will disappear. The body will cease to be an inexplicable complex of organs with difficult names and become a beautifully unfolded congeries of related structures which can be understood and appreciated. In this way anatomy becomes worthy of the name of a *science*, a correlated, arranged, and organized body of human knowledge, not a mass of inchoate, unrelated, undigested facts.

Pursuing the study in this way, you will learn to respect the omnipresence of law, and to bow with reverence before that awful conception which is perhaps the grandest ever conceived by the mind of man, of an endless chain of infinite changes, actions, and reactions, which have shaped nebulæ, the stars, the sun, the planets, earth and its elements, inorganic nature, and organic life from the tiniest speck of living matter up to man himself. You will feel something of the awe of Kepler, who, overwhelmed by the grandeur of planetary laws, cried: "My God, I think thy thoughts after thee!"

The study of human anatomy to-day, gentlemen, is a consideration of a portion of this vast scheme; the body of man is seen not to be a fixed quantity, as considered by the older teachers, but perpetually changing, perpetually adapting itself to outward conditions which are themselves slowly shifting. Astronomers tell us that the whole solar system is constantly moving in space, swinging in an immense orbit, far beyond the powers of man to conceive, around some unknown and distant sun situated across abysmal spaces. The motion is only apparent when observations are taken at immense intervals of time. So with man; if we take time sufficiently great, if we commence at the earliest recorded human remains and compare them with the man of to-day, we see that we are moving. Whither? We know not with clearness, with certainty; we only know that it is toward the light, onward and upward. That is shown by all the evidence at hand. Man is passing from the degraded condition of a brute, of a ravening animal preying on all the world, including his own kind, to a creature endowed with reason, self-control, and a power to appreciate the vast and wholesome order of the universe. Anatomy shows us this; from the flat-browed, heavy-jawed cave man to the skull of a Socrates or a Darwin is almost as wide a gap as from the ape to the man.

It is to this study I invite you; I need not say to you that it is one of the noblest of all. I invite you, not to a field of chaff, where you are to endeavor to get food for your intellects by cramming your heads with names, but to a feast where the wisest have delighted to sup. I invite you not merely because of the obvious fact that anatomy is the necessary gateway to all proper knowledge of medicine, not only because she is an acknowledged law-giver to physiology, to pathology, to surgery, to obstetrics, and to therapeutics, but for the real enlightenment of your understanding as well. The demands that modern life makes upon the physician are great. He is called to the gravest responsibilities, to the highest activities. He must not only be a physician, he must also be a thoroughly trained *man*, fully abreast of his time. For this reason, if for no other, you should not be content with that mere superficial knowledge that is a snare alike to its possessor and to those who trust him. Medicine can never stand alone; it is connected on every side with other sciences, especially those which relate to life and organization. You should, therefore, be aware of the general scope and advance of science; you should be able to keep step within your own field with the march of the vast army of investigators in other related departments, so that your time may not be wasted and your learning put to shame.

It is not without effort that you can make yourself worthy to sit at this table; you must approach it with thoughtfulness, with reverence, with that interest which characterizes good work in any field. It is not easy; it is not a science that you can acquire by listening to lectures alone; it requires hard work of hand and brain, skillful, unremitting patience in dissecting, careful discrimination in weighing and understanding the work of others. I feel confident, in advance, of your enthusiasm and your help. To those who can persevere I can promise that lofty pleasure which comes from any sincere and faithful examination of Nature's laws. Vergil, a poet who is now somewhat out of fashion, has told us something of this pleasure, in lines so noble and sweet that I must give them to you in their beautiful original form:

"Felix qui potuit rerum cognoscere causas;
Atque metus omnes, et inexorabile fatum
Subjecit pedibus, strepitumque Acherontis avari."
(Geor. II, 490.)

Happy is he who can learn of the causes of things, and put under his feet all fears, even relentless fate and the noise of the greedy gulf of death.

1315 Corcoran Street, Washington, D. C.

Original Communications.

THE COMPARATIVE STUDY OF SOME OF THE METHODS OF TREATMENT BEST ADAPTED TO

THE RELIEF OF OCCLUSION OF THE POSTERIOR NARES.*

By ALEXANDER W. MacCOY, M. D.,
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The object of this paper is to show the comparative value of the different means and appliances for the relief of partial or complete occlusion of the posterior nares caused by hypertrophy of the soft parts. The diminution of the openings of the posterior nares caused by encroachments of fibroid or other growths does not belong to the province of this paper. Occlusion of the posterior nares may arise (1) from hypertrophy of the posterior end of the lower and middle turbinated bodies (rarely of the *superior* turbinated bodies); (2) hypertrophy of the soft tissues over the *vomer*, familiarly known as hypertrophy of the vomer, and formerly called by some writers "œdematous infiltration of the vomer"; and (3) hypertrophy of the glandular tissue at the vault of the pharynx, known as the pharyngeal tonsil. This tissue, although outside of the posterior nares proper, is not infrequently the cause of occlusion in a greater or less degree when it becomes enlarged. Hypertrophy of the posterior portion of the lower turbinated bodies is by far the most frequent condition met. The second in frequency is hypertrophy of the vomer. The third—hypertrophy of the posterior end of the *middle* turbinated body—is but little less frequently observed than the second. Hypertrophy of the pharyngeal tonsil is commonly observed in the young. It is not necessary in this paper to speak of the causes and effects of these conditions, as I have already treated of them in a former article,† but only to consider the surgical means for their relief. The treatment of these conditions by medicinal sprays, etc., but rarely effects any permanent good. Before the invention of the rhinoscope the naso-pharyngeal space was an almost unknown region, and the instruments were of necessity crude and illy adapted to the end. Contemporaneous with the new pathology of chronic rhinitis and its scientific study came suitable instruments, more delicate and precise. To Dr. Jarvis, of New York, is the world most indebted for the snare now so well known and for so long of such inestimable value. Cocaine, which, by lessening the pain, one would naturally suppose would widen the field for the use of Dr. Jarvis's snare, on the other hand, by its power to contract the erectile tissue, causes such a diminution as to make the encircling of the hypertrophied mass much more difficult, and, as these masses are most frequently composed of dilated blood channels (angiose hypertrophies), the effect is all the more marked. If the tissue in question belonged to the *true* hypertrophies—often present in the anterior portions of the nasal chambers—the objection would not be valid. In hypertrophy of the vomer the tissues, while not so susceptible to the contractile power of cocaine, are markedly difficult to reach, owing to their peculiarity in outline—being sessile—so rendering it almost impossible to encircle them in a wire loop. If the attempt is made to fix the loop of wire in the snare by the use of transfixion needles (as strongly advocated by Dr. Jarvis), it is found to be extremely difficult, cumbersome, and often impossible. Hypertrophy of the outer end or face of the *middle* turbinated tissue can seldom be reached by Jarvis's snare with or without fixation needles. This portion of the posterior nares is well known to be the most difficult of access of all diseased parts in that region, and can only be effectually attacked from behind the soft palate and by different means. The *superior* turbinated tissue so rarely involved is inaccessible to any snare. The galvano-cautery, so well known, and, in skilled hands, so very valuable an adjunct to the successful measures employed for the relief of hypertrophic catarrh, has many advocates and is largely to be credited with the grand average of success in the field of rhinal surgery. While an ardent admirer of the good points in galvano-cautery employed in this field, I am free to acknowledge, after an extended experience in its employment, that it has some minor objections, and has been greatly abused by some workers. With its employment in other regions of the nasal chambers than those mentioned in this paper we have nothing to do. The abuses in the post-nasal space are seen chiefly in transient, and sometimes permanent, damage to the orifices of the Eustachian tubes and to the structures of the middle ear. The cases of injury are few, it is true, in comparison with the whole number benefited, and if the galvano-cautery could always be employed in experienced and skilled hands, no ill effects could follow. The question of annoying bleeding after the free use of the heated electrode is sometimes raised as an objection; the lack of facility has been urged against the galvano-cautery, but unfairly if the electrodes are delicately made and flexible. The galvano-cautery handle should be very light in weight,* and have the binding posts in the middle and *not* at the end. After considering the arguments for and against its use I am persuaded that the galvano-cautery, combined with the use of cocaine, affords one of the most efficient means for the surgical relief of hypertrophic rhinitis. It differs widely in its value in the posterior nares from the Jarvis snare in that *its* field has been greatly enlarged since the nasal chambers have been anæsthetized by cocaine.

We now come to the last method of treatment of occlusion of the posterior nares—by chromic acid. This chemical has many friends and some bitter enemies; some who extol virtues in it which others deny that it possesses. It would be difficult to reconcile these diverse opinions unless we could find the true cause of the differences in the *form* in which the acid is used and in the *manner* of its employment. I think I can demonstrate that the objections offered by those denying its virtues arise from want of suitable appliances for the safe and exact application of the caustic, especially when directed to the posterior nares. The form of solution should never be employed in the posterior nares for caustic action, as it is impossible to make it exact, and, when dissolved, it loses much of its caustic power, besides giving rise to intense inflammation, which of course is to be avoided.

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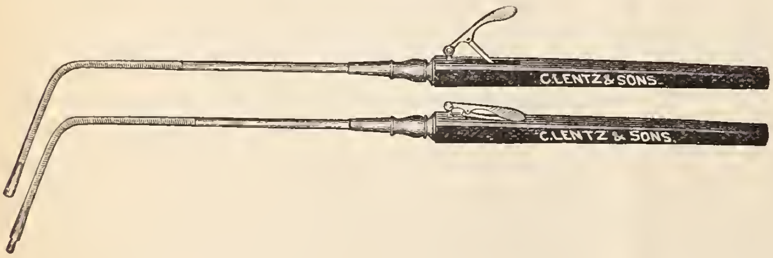
* Read before the American Laryngological Association at its ninth annual congress.

† "Observations on Occlusion of the Posterior Nares as a Result of Nasal Catarrh," "Medical News," April 7, 1883.

* Three quarters of an ounce.

The *crystals* are often employed, either loosely in contact with a roughened probe or rubbed on absorbent cotton twisted on a bent probe. This is faulty in that it is not controllable and is wanting in exactness, and is open to the general objection of always being liable to come in contact with the tissues of the soft palate and vault of the pharynx, either in the attempt to apply or during its withdrawal. Chromic acid, from the experience of the writer, should never be employed in the posterior nares in any other state than that of *fusion*, and it is requisite to its safe employment that a minute and well-shaped fused portion be used. This renders the acid fixed in quantity and less liable to spread to contiguous tissue. But, with all these precautions, unless the acid is protected by some means until brought into direct contact with the tissue to be destroyed, the soft palate and surrounding tissue will be smeared either before or after the application, and an inflammation thereby set up. It is almost impossible, even with a prior application of cocaine to the post-nasal space, to avoid coming in contact with surrounding tissue when the fused acid is not protected. In a certain class of cases—those with roomy post-nasal spaces—with the mirror to guide one, an exact application may be accomplished; but in a far larger number of cases—and in those generally most in need of such treatment—it is impossible to pass in the exposed bead of fused acid without injuring other parts. The *confidence* inspired by a safe and properly constructed instrument renders the act of the operator much more dexterous and exact. For several years I have had experience with such an instrument originally devised by me for the destruction of papilloma of the larynx (and most admirably suited to that end). I diverted it from its first use to that of the destruction of hypertrophies in the posterior nares and vault of the pharynx. This instrument is already before the medical profession in the issue of the "Medical News" for November 7, 1885. The accompanying cut shows two views of the instrument.



The original paper above mentioned alleges the following advantages over other concealed applicators, viz.:

1. A double-acting lever movement.
2. Uncovering of the stylet by drawing the tube backward instead of *pushing out* the concealed stylet, and thereby avoiding the aberration at the point.
3. Flexibility of the stylet and tube, allowing a variety of positions and diversity of uses.
4. Self-recovery of the tube by a spring in the handle.

This little flexible instrument, if well constructed, is durable and *precise*. I find that by using it a once difficult and inexact application has now become precise and successful. Where the hypertrophied masses are large and of long standing it is necessary at times to repeat the application to get a complete and radical destruction of the tissue. The inflammatory reaction is wonderfully small—often not appreciable. Some increase of secretion necessarily follows for a few days. The *facility* and *precision* of the applicator are remarkable. This is readily apparent from the mechanism of the instrument. I have not considered other surgical means for these parts, because I consider those above mentioned by far the most desirable and prominent. In the treatment of enlargement of the pharyngeal tonsil the application of chromic acid to the mass is readily made with the same applicator. It is necessary to repeat the applications when the mass is large and diffused. The galvano-cautery *point* is very effective when pushed well into the growth and the current then allowed to flow. A white heat is necessary *here* for quick action and rapid destruction, as I have already shown it to be for the destruction of papilloma of the larynx.*

1417 Walnut Street.

ON THE
TREATMENT OF ATROPHIC RHINITIS
BY APPLICATIONS OF THE GALVANIC CURRENT.†

By D. BRYSON DELAVAN, M. D.

At the second annual meeting of this association, held in 1880, a paper upon "Pharyngitis Sicca" was read by Dr. E. L. Shurly, of Detroit. It will be remembered that in this communication Dr. Shurly called attention to the use of the galvanic current in dry catarrh of the pharynx, and that he cited several cases in which the application of that agent had been followed by decided relief. Afterward, in conversation with the writer, Dr. Shurly advocated the same treatment in atrophic rhinitis, and stated that good results had been obtained by him from its use.

As everybody will admit, there are few diseases which offer greater discouragement to both patient and physician than the one in question. The general verdict has been that, in a well-established case, the prognosis is bad; the truth of this opinion is confirmed by common observation. Any measure, therefore, capable of affording a fair promise of relief should be carefully studied, and all possible good from it realized and accepted before it is condemned.

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* "Med. News," January 1, 1887.

† Read before the American Laryngological Association at its ninth annual congress.

With the intention of investigating the value of Dr. Shurly's suggestion, the writer about two years ago began a series of clinical experiments, the results of which have been so satisfactory that it would seem unfair to the originator of the idea, as well as to the method itself, that they should be withheld. It has seemed pardonable, therefore, to call the attention of the association for a few moments to the subject.

The application is made as follows: The positive pole of a constant current battery is applied to the nape of the neck by means of a flat sponge electrode. The negative pole is then applied directly to the nasal mucous membrane by means of an electrode especially designed for the purpose.

Dr. Shurly, in conversation with the writer, has insisted that, in order to obtain the best results, the electrode should be made of metal, and that the metallic surface should come into immediate contact with the Schneiderian membrane.

While not questioning the truth of this view, the writer has found practically that the use of such an electrode is inconvenient and troublesome. In order to render the application of the nasal electrode simpler for the physician and more comfortable for the patient, he has been in the habit of using a piece of common copper wire, around which has been loosely wrapped a pledget of absorbent cotton. The size of the pledget must be carefully regulated to accommodate itself to the diameter of the nasal fossa into which it is to be introduced. It is to be saturated in lukewarm water, and, the nasal cavities having been thoroughly cleansed, introduced until the extremity of the electrode reaches the retro-nasal space. The electrode may be made in two sections, and one of these introduced into each nasal cavity at the same time. The ends of the electrodes may then be joined to the connecting wire of the negative pole of the battery, and the current gradually applied. The strength of the current should range for the average patient between four and seven milliampères, and the sittings should last from five to twelve minutes, or until the irritation caused by the current has been sufficient to provoke a slight watery discharge.

This proceeding is not accompanied by disagreeable symptoms if the current is not applied too strong.

The immediate effect of the current is a sensation of warmth, followed by a tendency to increase of secretion. Later in the course of the treatment the symptoms in favorable cases are improved, sometimes slowly, sometimes with a fair degree of promptness. It is not alone in atrophic conditions that Dr. Shurly's method is valuable. Applied in certain cases of hypertrophic rhinitis, the writer has found it markedly beneficial, and his own experience, as well as that of several colleagues to whom he has recommended it in consultation, has encouraged him to regard it as a decided acquisition to the therapeutic resources at our command.

Of course it is in cases of comparatively recent standing that the best effects are to be obtained. Persistent and patient treatment, however, in the graver class of cases, will give results which the writer has not seen equaled by the application of any other method. The main objection to the use of the galvanic current is the amount of time required for its thorough and satisfactory application. It is to be hoped, nevertheless, that, in spite of this, the value of Dr. Shurly's method may become more generally recognized, and that the relief which it is capable of producing may be afforded to the unfortunates who may require it.

RECURRENT NASO-PHARYNGEAL TUMOR.

CURE BY ELECTROLYSIS; EXHIBITION OF THE PATIENT.*

By RUFUS P. LINCOLN, M. D.

In April, 1886, I saw, in consultation with Dr. Satterthwaite, A. B., aged nineteen years, who feared a recurrence of a naso-pharyngeal tumor that had already been twice removed by a surgeon in San Francisco, Cal. I expected to have received before this time a report of his operations and of the pathological character of the tumors removed, but it has not yet come to hand.

Briefly, from the patient's account, I will state that the principal growth was removed from behind the palate in March, 1885, and a tumor that presented in the left cheek from under the zygomatic arch the following September. The tumor reappeared in the posterior nares, and the first operation was repeated in November. At the time of the first operation the patient could not breathe through either nostril; the soft palate was distended, and the tumor could be seen when looking into the mouth. The patient was deaf in both ears. The left cheek was enlarged by a growth, which he was informed was a part of that in the throat. The patient was conscious of the presence of the tumor two years before the first operation.

When I first saw him he complained of inability to breathe through his left nostril, and of a sense of fullness in the posterior nares. To inspection there was nothing abnormal visible in either nostril anteriorly. A probe passed into the left, however, met an obstruction as it reached its posterior border; the right was entirely free. On looking into the mouth, the left side of the arch of the soft palate was gaping; it evidently had been once incised and only partially restored. Posterior rhinoscopy disclosed a pinkish-colored mass, of about the size and shape of a horse-chestnut, nearly filling the left half of the post-nasal space. A further examination showed this to be an outgrowth from the left border of the vault and the left lateral wall of the naso-pharynx. To the finger it was immovable, but elastic.

On the left side, above the first molar, where the mucous membrane is reflected upon the inside of the cheek, a sinus presented, from which a small amount of purulent matter was escaping. A probe introduced here penetrated two inches and a half.

It was through an opening made at this point that the zygomatic prolongation of the tumor was removed.

It was decided at our consultation that an attempt should be made to destroy the tumor by electrolysis. Mr. W. F. Ford prepared for me some needles insulated to within three fourths of an inch of their points, and of a convenient length, to be used through the anterior nares.

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* Read before the American Laryngological Association at its ninth annual congress.

June 3, 1886.—I did my first operation as follows: I introduced two needles well into the tumor, and connected them with the negative pole of the battery. The positive pole was always subdivided, terminating in two large sponge-covered electrodes, one of which was firmly held against the chest below the left clavicle, while the other was in a like manner placed just above the corresponding scapula. After the first treatment but one needle was used. There were in all sixteen applications at intervals of from four to six days, each *séance* occupying from twelve to twenty minutes.

July 29th.—All evidence of a tumor had disappeared, the only trace of the growth being a button of cicatricial tissue, which occupied its former site.

The battery used was that made by the Galvano-Faradic Company, and the number of cells employed at each *séance* was quickly increased to sixteen, and sometimes to twenty-two. The immediate effect of the electrolysis was a distension of the mass operated upon, and a change of color toward lividity, but both of these changes passed away within twenty-four hours. At each succeeding *séance* the mass was decidedly smaller than at the previous sitting. The only disagreeable symptom incident to the operation beside slight pain was a feeling of dizziness; this never lasted more than half an hour after the operation ended. The patient has been frequently seen since the date last mentioned. There has never been any evidence of a disposition of the tumor to be reproduced. All disagreeable symptoms attributable to the growth have vanished.

My excuse for presenting this subject to you to-day is to emphasize and justify what I have twice before insisted upon at meetings of this association—viz., the ability to successfully treat certain cases of naso-pharyngeal tumors by galvano-cauterization and electrolysis.

A CASE OF LARYNGEAL STENOSIS

TREATED BY DIVULSION AND SYSTEMATIC DILATATION.*

By MORRIS J. ASCH, M. D.

The following case is interesting from the character of the stenosis, from the success of the treatment, and also from the obscurity of the cause producing the stenosis:

Miss K., aged thirty, a music-teacher, presented herself at the throat clinic of the New York Eye and Ear Infirmary, October 4, 1885, with the following history: Up to her twenty-seventh year she had always enjoyed good health. At that period she had some pulmonary trouble of the nature of which she was ignorant. Subsequently she had always a slight cough, but no other symptoms. No diminution in weight; no hæmoptysis or night-sweats. In October, 1884, she first noticed a slight wheezing on inspiration, accompanied by a short spasmodic cough, which gradually increased in severity until May, 1885, when the dyspnœa became excessive. She was treated at the dispensary of one of our large hospitals for asthma without obtaining relief, and was finally pronounced incurable, a change of climate being recommended as the only means of procuring comfort. At the time she presented herself at my clinic her dyspnœa was excessive at intervals. She breathed with her mouth widely opened, inspiring with a stridulous, gasping sound, which could be heard in an adjoining room. The slightest exertion increased the dyspnœa, which, however, was ameliorated on lying down, the only position in which she was comparatively comfortable. The voice was clear, though not strong; the heart-sounds were weak, with loud sibilant râles over the whole chest; and there was dullness under the left clavicle. The appetite was good, and all the functions were normal.

Examination with the laryngoscope showed no abnormity in the larynx above the cords, nor in the cords themselves, but on deep inspiration the origin of the trouble was revealed below the vocal cords. At the level of the cricoid cartilage, and encircling the opening of the trachea, were seen two pale, thick, shining swellings, united posteriorly by a membranous expansion, and leaving the anterior wall free, which diminished the opening of the larynx to a third of its natural size. The membranous portion of this swelling was double, there being two folds of it at different levels. When the patient presented herself again, on October 20th, the membranous expansion posteriorly was nicked by means of Whistler's laryngotome, and the stricture divulsed by means of a long laryngeal forceps opening laterally. A small amount of blood followed the operation, and for several hours there was a good deal of coughing. After this the patient was very comfortable, the dyspnœa was materially lessened, and she was able to ascend a flight of stairs without exhaustion, a thing which she had been unable to do for two years.

On October 22d the patient was seen again, and the caliber of the stricture seen to be materially enlarged, the constricting band being now divided into two crescent-shaped lateral portions. The breathing was still loud, but with barely any effort and with only occasional gasps. Metallic sounds were passed into the trachea daily, and dilatation with the forceps was performed tri-weekly. The noisy respiration having now ceased, the chest was examined, and bronchial respiration found to be quite marked. From this time the patient gradually improved, the stretching with the forceps being regularly performed by my assistant in the clinic, Dr. Emil Mayer.

As time went on the dilatations were performed less frequently until February 8, 1886, when Dr. Mayer reported the patient much improved, the caliber of the stricture enlarged, and the breathing almost noiseless.

In April an attack of bronchitis supervened, and with it the dyspnœa recurred, but the continued dilatation soon relieved this. The patient's condition improved, and she became less regular in her attendance.

On September 2d the patient presented herself at my office in such an extreme state of dyspnœa as to almost warrant an immediate tracheotomy. I examined her larynx, and found it to be acutely inflamed at the seat of the stricture, while the crescentic bands were enlarged to such a degree as to leave the merest chink for the passage of air. In a little while there was a lessening of the extreme dyspnœa, so that she was able to be transported to the infirmary, where she was put to bed, and, under the use of steam and cold compresses to the throat, the acute symptoms subsided and the larynx was restored to its previous caliber. Dilatation by O'Dwyer's tubes was then tried, but the patient was unable to tolerate this method, spasm of the larynx being caused by it.

Dilatation was then begun with Schrötter's hard-rubber tubes, commencing with No. 3. They were introduced every other day, being retained from five to fifteen minutes at a sitting, and the size increased as the treatment progressed. From this time the improvement was steady and manifest; the patient tolerated the presence of the tube without difficulty, and in three months from the adoption of the method the caliber of the larynx and trachea was restored, and the cure was perfect. At the time of this writing (May, 1887) she has no asthma, the respiration is natural, and she can perform her duties without inconvenience in this respect, but, unfortunately, the symptoms of pulmonary disease have increased.

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* Read before the American Laryngological Association at its ninth annual congress.

There was in this case no history of syphilis nor knowledge of any inflammation of the larynx or trachea; it was evidently a case of subchordal hypertrophic laryngitis, described by Gerhardt in 1873 under the name of "chorditis vocalis inferior hypertrophica," and cases of which have been reported by Schrötter, Burow, Marian, Ganghofner, Chiari, and others. The disease, when seated in the larynx, shows itself first by hoarseness; if, however, it is below the cords, then dyspnœa is the first symptom. There is probably a history of inflammation of the throat at some previous time; then dyspnœa appears, and, as soon as the thickening is of sufficient volume, suffocative attacks occur, often attended by complete aphonia. The usual seat of the disease is below the cords. The nature of the disease is in doubt. Its immediate cause is undoubtedly catarrhal inflammation of the mucous membrane, while the patients are generally of a strumous constitution. It may, however, result from tuberculous inflammation, which, Chiari says, can produce swelling below the cords.

In the treatment of these cases systematic dilatation by means of the tubes of Professor Schrötter is the best method to pursue. A striking point in the history of the present case is the rapid amelioration brought about by the use of these tubes, and the permanency of the good effects produced by them. In all cases of stenosis where a tube can be introduced there can be no question as to the propriety of attempting this method in preference to tracheotomy. An English catheter can be introduced, increasing in size until one of the hard-rubber tubes can be inserted, and the patient can soon be taught how to introduce it himself. If, however, the dilatation is pushed too rapidly, and a tube of unsuitable size is forced, severe reaction may occur, causing swelling, and the dyspnœa may be increased to such an extent as to render an artificial opening imperative. There is no question in my mind as to the preference to be given to this method over any other that we possess. In cases where urgency exists, of course a surgical procedure may be unavoidable; but in cases of chronic stenosis the tube is indicated, especially where it is the result of chronic inflammation. In cases where the stricture is the result of wounds, or of cicatrization following loss of tissue, or where acute stenosis is present, tubage should not be employed; in the one case it would be powerless to exert any permanent improvement, and in the other the reaction would aggravate the original disease. Yet, in cases of emergency, respiration might be maintained by its means until tracheotomy could be performed. In cases of stenosis existing low in the trachea, tubes of a different curve from the laryngeal tube must be employed.

The question of the cause of the stenosis in the case I have just reported is an interesting one. Was it the result of simple catarrhal inflammation in a strumous subject, or had the condition of the lung which manifested itself later on any effect in the production of this swelling? Certainly we have not been accustomed to look for the early laryngeal manifestations of phthisis so low in the air-passages, and yet it is possible that they may present themselves in this locality more frequently than has been supposed; and if we examine closely into all our cases of stenosis it is possible that we may occasionally find tubercle to be a factor in its production.

A CASE OF LEUCOPLAKIA BUCCALIS.

*RECOVERY.**

By W. C. GLASGOW, M. D.,

ST. LOUIS, MO.

At the Detroit meeting of the society in 1885 our esteemed president, Dr. Ingalls, read an exhaustive paper on "Leucoplakia Buccalis," and reported a case which had recovered under the local use of the galvano-cautery. It has been my fortune to have a similar case in which recovery has taken place under a less heroic method of treatment, and I take this opportunity to place it on record:

Mr. F., a merchant, forty-eight years old, consulted me on January 15, 1885, on account of a trouble of the throat. He stated that for some weeks he had had pain and difficulty in swallowing, and a certain amount of thickness of speech. He had been losing flesh and weight, with an increasing degree of weakness and loss of mental activity.

On examination, the right tonsil appeared swollen and very red, the left slightly enlarged. On each anterior pillar of the palate an opaline patch was seen covering the greater part of the pillar. There was also a small patch of similar character on the lower part of the tonsil. The removal of a portion of the patch left a bleeding surface. About the middle of the tongue was a thickened opaline patch, of nearly the size of a quarter of a dollar, with several fissures extending to the tip of the tongue; a small opaline patch was also seen on the side of the tongue. On the left side of the tongue was a small, irregular-shaped ulcer, with clear-cut edges, looking as if it had been cut out with a punch, and extending through the mucous membrane to the submucous tissue. Certain of the appearances in the throat, more especially the deep, clear-cut ulcer, gave rise to the suspicion of syphilis, but, on questioning him, no definite syphilitic history could be obtained. He stated that, about twenty-five years before, he had had a slight sore which was cauterized; from his description, this was probably a herpes præputialis. This healed immediately, and since then, until his throat began to give him trouble, he had enjoyed perfect health. There was no enlargement of the glands, and he had absolutely no history of a secondary symptom. He was married and had four children. His wife and children had always been perfectly healthy. He was a great smoker, using daily from ten to twelve cigars.

In spite of this history, I determined to give him specific treatment. I ordered him full doses of the biniodide of mercury and made daily applications to the throat with the carbolated iodine, and ordered him to give up his cigars. Under this treatment he steadily grew worse; the patches continued to enlarge, until the whole tonsil was covered with a yellowish-white patch. The soft palate and uvula became swollen and œdematous.

The specific treatment was then discontinued and he was given a simple iron tonic, and the local application of the iodine was continued.

He continued under this treatment for three months with the most gratifying result. The patch on the tongue disappeared, the ulcer healed, and the patches on the tonsil were scarcely visible.

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* Read before the American Laryngological Association at its ninth annual congress.

The soft palate and uvula remained greatly swollen and œdematous. The mucous membrane was hanging in folds and ridges, as if partly detached from the submucous tissue. A slight cutaneous eruption appeared in the form of isolated flat tubercles on the end of the nose, with a few on the face, and a few patches of squamous eruption were seen on the back of the neck. I am inclined to believe the tubercles to be the result of iodism. His health had greatly improved, and he was able to swallow without pain.

On May 1st I sent Mr. F. to the Hot Springs, Ark. Here the physicians he consulted regarded his case as syphilitic, and gave him the regular treatment. He was thoroughly boiled and bathed, and received heroic doses of mercury in the form of blue ointment, with enormous doses of iodide of potassium. After a two-months' course of this treatment, finding that he had been steadily growing worse, he consulted another physician. This gentleman, after a study of the case, doubted the syphilitic origin, and was inclined to consider it epitheliomatous. When I saw Mr. F. again, on July 1st, a very decided aggravation of his disease was apparent. He had again lost flesh, he was weaker, and his throat pained him greatly on swallowing. The soft palate and uvula were œdematous, and on the soft palate could be seen three crescentic-shaped patches of about the size of a threepence; each patch consisted of a number of small papules, and it was surrounded by a well-defined red band; there were similar patches on the right tonsil. The pillars of the palate still showed the opaline color.

I now gave him liq. potass. arsenitis in full doses, and continued this for ten days; all local treatment was discontinued. At the end of this time the patches of papules had disappeared, and the place was covered by a white-yellowish exudation.

He now received tonic doses of mercury and potash, $\frac{1}{96}$ gr. of the former and 1 gr. of the latter. Under this treatment he steadily improved, and in six weeks his throat had regained its normal appearance, with the exception of a small opaline patch on the side of the tongue, enlarged tonsils, and a fullness of the uvula. He could swallow without pain, and he had gained in weight and strength. At this time he visited Europe and spent a month traveling through the British Isles. He considered himself entirely well, having regained his strength, and his throat gave him no trouble until he caught a cold at the Isle of Wight. He then hastened to London and consulted Dr. Morell Mackenzie; our distinguished colleague, after hearing his history and examining him, gave him the opinion that his throat disease was syphilitic, and prescribed for him minute doses of the iodide of potassium. Mr. F. returned home in perfect health, and from that day to this has not had a sick day. His throat is perfectly normal, with the exception of slightly enlarged tonsils.

In a throat practice of seventeen years I have seen many syphilitic throats, but have never seen one resembling this case. I have seen mucous patches and condylomata and the papillary syphilides in all varieties; in all these cases the condition has yielded to constitutional treatment. From my experience with this case, I can not agree with our distinguished colleague in considering this to be a case of syphilis. This opinion I form from the following facts:

1. There is no history of syphilis; the initial lesion is very problematical and no secondary symptoms have appeared in twenty-five years.

2. Aggravation instead of improvement of the local disease under the most heroic and persistent anti-syphilitic treatment.

3. Improvement and recovery under a simple tonic treatment, such as we should expect to be of benefit in any simple chronic inflammatory condition.

4. A healthy family showing no sign of the syphilitic dyscrasia.

I should rather consider the throat disease to be the result of excessive smoking; the history and results of the case seem to perfectly justify the conclusion.

A CASE OF KELOTOMY.*

By JARVIS S. WIGHT, M. D.,
BROOKLYN.

G. M., nineteen years of age, was brought to the Long Island College Hospital at half-past two o'clock on the afternoon of January 10, 1887, suffering from strangulated hernia. The hernia appeared suddenly on the morning of the same day, about seven o'clock, as he was going to his work, and was very painful. He walked home, where he was seen by his family physician in a short time. Another physician was called, when ether was given. An attempt at reduction by taxis did not succeed, and, as soon as arrangements could be made, he was sent to the hospital. Soon after his arrival I examined him and found he had an irreducible strangulated hernia on the right side. It was a direct hernia, and the tumor was of considerable size.

With the assistance of Dr. Lewis, Dr. Van Cott, Dr. Dudley, and Dr. Tucker, at about three o'clock in the afternoon I began the operation. A preliminary incision was made at once down to the sac. Then I cut the constricting band over the neck of the sac, and made a reasonable attempt to perform the minor operation, but did not succeed. Subsequent events showed that this failure was fortunate. On opening the sac, a considerable quantity of strangulated intestine rolled out, which, while it was very much congested, was not yet gangrenous. Dark blood continued to flow from the sac, and a lacerated wound of the intestine bled freely. The mucous coat had not been torn through. The laceration was near the mesentery, and in the vicinity of the opening in the abdominal wall. Three efforts to include the edges of the wound in a single ligature failed. I then stitched the wound with catgut sutures. A small curved needle was passed through the serous and muscular coats of the intestine in two places, and the two sutures were tied and cut short. The hæmorrhage ceased at once.

On examination, I found that the intestine had come through the outer third of Hesselbach's triangle, very close to Poupart's ligament, not disturbing the conjoined tendon. The opening in the subperitoneal and transverse fasciæ was from side to side, and about half an inch in length; but the rent was very narrow, and the edge above was very sharp. No expedient would separate the edge of the opening above from the intestine below, as it rested on Poupart's ligament. I had to make a free incision before the strangulation ceased. In the mean time the coils of intestine had been kept clean and warm by means of towels moistened with a warm solution of bichloride of mercury. In a few moments the oozing from the intestine ceased. Though I had made a large opening in the abdominal wall, I found it very difficult to reduce the dislocation; but, when the intestine was well inside, it readily kept its place I then closed the main part of the wound with two catgut sutures, including all the deep tissues, being careful not to include the spermatic cord. Horse-hair sutures were employed to close the rest of the operation wound. The part was then dusted over with a powder containing one part of iodoform and two parts of pulverized coffee, and covered with an antiseptic pad.

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* Read before the Brooklyn Pathological Society, February 24, 1887.

Soon after the operation the temperature went up to 105° F., but a few hours after it went down to 101°. Since then the temperature has been somewhat irregular, ranging mostly from 99·5° to 101°. On one occasion it was as high as 102°. On Monday, the 17th, it went up to 103°. To-day, January 20th, it is 98·6°. The pulse is 71, and the respiration is 19.

I gave the patient repeated doses of deodorized tincture of opium from the outset; sometimes he had four twenty-minim doses in the twenty-four hours. He was confined exclusively to a milk diet, and kept in bed on his back. Two or three times he had slight distension of the bowels with gas. His urine was drawn off twice a day for a week. At no time did he have much pain. On the evening of the 16th an enema of nearly a pint of water, containing a little soap in solution, was administered. There was no action of the bowels. His opiate was omitted, and he was left for the night. The next morning, one week from the day of the operation, the enema was repeated, and caused a copious evacuation of the bowels. Since then he has passed urine without the catheter. For the past few days he has had ten grains of quinine in the twenty-four hours. This may be the cause of the subsidence of his fever.

In the vicinity of the operation wound there was intense capillary congestion for four or five days; this slowly went away. The sutures were mostly removed at the end of the week. The main catgut suture was absorbed. There was primary union of the wound—except at two points. A small point near the lower end of the incision showed slight suppuration; a little larger point near the upper end of the incision discharged a moderate amount of healthy pus.

At present these small ulcers are rapidly closing, and, so far as I can now come to a conclusion, I should say that my patient would be reasonably certain to recover. Let me add that the reasonable and ordinary rules of antiseptic surgery were applied in the treatment of this case.

The patient says that about a year ago he had a similar swelling, of nearly half the size of the present one, and that it continued three or four days, when it went away itself. A member of his family said that he had a hernia at the time of his birth; but I could not learn anything beyond this simple fact.

Correspondence.

LETTER FROM LONDON.

The Introductory Addresses at the Medical Schools.—A Post-graduation Course at Charing Cross Hospital.

London, *October 4, 1887.*

The medical session has now begun at all the London hospitals, and yesterday witnessed the annual repetition of inaugural addresses at those hospitals which have not given up the old custom. It is curious that the three largest hospitals should have discontinued the addresses while they still flourish at smaller institutions, but such is the fact. At St. Bartholomew's and the London Hospitals there was a dinner of old students, and at Guy's a conversazione. Charing Cross, the only other school which has finally abandoned the introductory address, did not celebrate the occasion by any festivities. King's College and the Middlesex, however, so far departed from the regular practice as to have addresses from laymen, and not from one of their own teachers. At the former Lord Selborne, an eminent lawyer and ex-lord chancellor, undertook the duty, and at the latter the Lord Mayor of the city of London.

The addresses at the other institutions did not contain anything of a very novel or interesting character. Several of them, of course, had allusions to medical politics; indeed, it was not to be supposed that the coming struggle on the question of an M. D. degree for London students should be passed over in silence. Dr. Sturges's, at the Westminster, was almost wholly political. Mr. Anderson Critchett, at St. Mary's, dwelt on the improvements that had taken place in medical practice and chiefly in his own specialty, diseases of the eye, in recent years. Mr. Dent, at St. George's, devoted his hour to the nature and significance of pain. Dr. Crocker, at University College, told his audience some of the things they were not to do when launched into the world, and especially cautioned them against endeavoring to get practice by advertising. Various kinds of advertiser were described, especially the advertiser circumstantial, who, while appearing to praise something else, was really putting himself forward; as the most flagrant instances of this variety he referred to men who lent their aid in puffing sundry trade articles, either directly by writing testimonials or indirectly by allowing extracts from their works to be reprinted by the venders of drugs, foods, or hygienic articles and sent out as circulars or left in public places; another plan he also referred to was to write books known as "bread-and-butter books" of more or less pretension on common diseases, such as "gout," or on some fashionable or new treatment, such as "massage," to give the impression that the writers were authorities on the subject. There will be not a few probably who will not like Dr. Crocker's very plain way of speaking.

Of course it is much too soon to know anything about the number of entries, yet I expect that the Middlesex will be found to have made the greatest gain among the smaller schools. They have for some months past been building new schools and a residential college, and they have taken good care to let the public hear of their doings from time to time, and that sort of thing almost always attracts the public, who really can not be expected to discriminate between the relative merits of the teachers at the different schools. Last year St. Mary's did much the same thing; they opened some new school buildings and a small residential college with a great flourish of trumpets, and were rewarded by a very considerable increase in the number of their students. Next year it will be one of the others that will find some legitimate excuse for drawing a large share of public attention to itself. If the thing went merely by turns, it certainly would be the turn of St. George's or Kings, for these schools have both sadly degenerated from what they were in by-gone days.

A post-graduate course of lectures is about to be given at the Charing Cross Hospital, each member of the staff having undertaken to give one lecture. This is not the first time this has been attempted in London, for a course was given at St. Mary's a few months ago, but it was not a great success. The reason of its failure is said to have been that the subjects were not those on which the average general practitioner desired information, and those who have organized the course at Charing Cross have endeavored to avoid this mistake. How far they have succeeded time will show. It always appears a pity to me that the work at our special hospitals is not a little better organized, as that would constitute by far the best possible post-graduate course a man could wish for. If half a dozen of the leading special hospitals were to join together and arrange for lectures and demonstrations to those who had paid a specified fee into a common fund, I believe that we should hear less of people going over to Vienna for clinical instruction.

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ANTIPYRINE AND ACETANILIDE AS ANALGESICS.

These two recent additions to our list of remedial agents have already taken an advanced place among antipyretics, and the literature of their use in cases of high temperature is quite extensive. It is only within a few months that cases have been reported in which they have been used for other than their well-known antithermal effects. Dr. John Blake White, of New York, was, so far as we know, the first to make use of antipyrine in painful affections, which he did in 1884, soon after its introduction by Knorr, in cases of headache; and his account of the results of two years' use of the remedy in these cases was given in the "Medical Record" for September 11, 1886. In his cases, the headaches were the result of indigestion, menstrual disturbances, great mental strain, and loss of sleep. Dr. White was first led to regard antipyrine as an analgesic by the fact that typhoid-fever patients who took it as an antipyretic were often relieved of headache. Last May Dr. W. H. Thompson read a paper before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, in which, as will be seen by referring to our issue for July 23d, page 109, he gave it as the result of his experience that antipyrine was of great value in true migraine; that malarial headache was mitigated by its use, but not to so decided a degree; that dyspeptic headache was sometimes ameliorated; and that uræmic headache was not affected.

During the past year M. Germain Sée has been making use of antipyrine as a pain-relieving remedy, and has recorded his observations in the "Union médicale." In both acute and chronic articular rheumatism and in the painful paroxysms of gout he has found the remedy efficient, as well as in various forms of neuralgia, especially the facial and the sciatic. He has also produced good results with it in painful conditions of the abdominal contents, such as renal, hepatic, gastro-intestinal, and uterine colic. He compares it with its newer rival, acetanilide (absurdly called antifebrine), but accords the superiority as an analgesic to antipyrine. In the severe pains of locomotor ataxia, M. Lépine has given great relief with antipyrine. M. Demiéville recently read a paper before a French society, in which he reported favorable results from the use of acetanilide in cases of neuralgia, sciatic, ulnar, intercostal, and trigeminal, also in cases of dysmenorrhœa and of pain due to cancer and gangrene. In this Journal for May 28th, Dr. Allan McLane Hamilton, of New York, published an article in which he gave his observations on the analgesic properties of both antipyrine and acetanilide, which had led him to the conclusion, like M. Sée's, that the former was the more serviceable of the two.

The dose of antipyrine in these painful cases is from ten to fifteen grains usually, although five grains are often sufficient to give relief; that of acetanilide is from two to eight grains. The present writer's experience with the two remedies is decidedly in favor of antipyrine, but in some few cases he has found that acetanilide would answer as well. The patient should be directed to lie down as soon as the drug is taken, for it has a slight hypnotic effect, and patients generally fall into a quiet slumber, from which they awake very much relieved. In a few cases where the writer has used antipyrine, it has caused vomiting, and in two instances marked depression, but otherwise no ill effects have followed the use of quite large doses. In antipyrine we undoubtedly have a valuable addition to our already long list of pain-relieving remedies, and in many cases its analgesic properties come more into play than its antithermic action. But it is a patented article, and it is to be regretted that its price still keeps it out of the reach of many sufferers.

MINOR PARAGRAPHS.

THE TRANSPORTATION OF PATIENTS WITH INFECTIOUS DISEASES IN PARIS.

The "Gazette hebdomadaire de médecine et de chirurgie" states that, following the example of London, Paris is about to provide itself with three stations where conveyances can be had for transporting persons sick with infectious diseases. Each station is to have twelve carriages—two for small-pox, two for diphtheria, two for measles, two for scarlet fever, two for typhoid fever, and two for other infectious diseases.

SUTURE OF THE BLADDER.

The "Deutsche Medizinal-Zeitung" summarizes a recent article by Dr. A. Brenner, an assistant at Billroth's clinic, published in the "Archiv für Chirurgie," by which it appears that the author appreciates the force of Guyon's remark that the bladder should be sutured hermetically or not at all. In the method that he suggests, which as yet he has carried out only on the cadaver and in the case of dogs, two threads are carried around the wound, at a distance of an inch or less from it, one running in the submucous tissue, and the other in the muscular coat, care being taken that neither shall involve the mucous membrane. Both are then tightened and securely tied. The result of this is to form a rosette-like pouch, which slightly alters the shape of the bladder, but the wound is made water-tight and air-tight.

INOCULATED MEASLES.

In a recent number of the "Monatshefte für praktische Dermatologie" Dr. F. Michael reports a case of the apparent inoculation of measles in which there were two particularly interesting features: the fact that the patient who furnished the contagium was in the stage of incubation at the time, and the appearance of a rash in the vicinity of the point of inoculation twenty-four hours in advance of the general eruption. The facts were as follows: A school-girl had a pustule on the dorsal aspect of the first segment of the middle finger. The teacher opened the pustule with a pin given her by a child sitting near by, this child, as it afterward appeared, being in the period of incubation of measles. On the ninth day the little girl sickened with the usual prodromes of measles, and there was redness of the back of the hand that had been affected with the pustule.

The author discusses the question of whether this was due to a lymphangeitis caused by the pustule or a morbillous rash occasioned by inoculation with the pin; and he concludes that the latter supposition is the true one.

A RECOVERY IN SPITE OF THE PATIENT.

The "Revue générale de clinique et de thérapeutique" quotes from the "Bulletin médical" an account of the case of a highly hysterical woman from whom a large cyst of the broad ligament was removed. To the minute care bestowed upon the antiseptic precautions the operator attributes the woman's escape from the natural consequences of certain remarkable performances in which she afterward indulged. Within a few hours after the operation she got out of bed and knelt down on her knees, in spite of all remonstrances. The next morning she was a little depressed, and complained of the intolerable itching caused by sudamina. During the day she was taken with a severe hysterical attack, after which, having watched for an opportunity, she left her room and walked a number of yards before she could be taken back to bed. The following night she rose again, and a struggle was necessary before the nurse could get her into bed again. The next day she escaped anew and visited the kitchen, from which she was brought back only after what is described as a truly pugilistic encounter. On the fourth day she had another major attack of hysteria, and walked into a neighboring chamber. On the fifth day she became calm, and the dressing was changed. She was in good condition, and nothing was found more serious than a crop of sudamina on the abdomen. Thenceforth her convalescence was unmarked by any noteworthy incident.

DRINKING-WATER AS A CAUSE OF TYPHOID FEVER.

The water used for drinking is so commonly recognized as the chief vehicle of the germ of typhoid fever that even isolated instances in which it is evidently not at fault are of interest. A striking example was lately reported to the *Société de médecine* of Nantes by M. Bonamy, in which the occupants of two houses used drinking-water from the same source, but only one of the households was attacked with typhoid fever. That family, however, suffered severely, as there were six cases and four deaths. The account is published in "Gazette médicale de Nantes."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 18, 1887:

DISEASES.	Week ending Oct. 11.		Week ending Oct. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	45	9	44	8
Scarlet fever	60	8	61	9
Cerebro-spinal meningitis	5	3	2	3
Measles	21	2	14	3
Diphtheria	82	37	103	30
Small-pox	0	1	1	0

The International Medical Congress and the Newspapers.—The managing editor of the Philadelphia "Press" has addressed the following letter to the editor of one of the Philadelphia medical journals:

"My attention has been called to an editorial in your issue of the 24th ult., in which you state that Dr. I. Minis Hays, of the 'Medical News,' was the author of the dispatches sent from Washington to the 'Press' in regard to the recent International Medical Congress. A newspaper is alone responsible for its news dispatches, and it is not the custom of responsible journals to make known the names of its regular correspondents. Permit me, however, to state authoritatively *through your columns* that Dr. Hays was not the author of the dispatches in question, and that he was not in any way responsible for them. They were sent from Washington by two regular correspondents of the 'Press,' and I find, upon inquiry, that the identity of the writers was absolutely unknown to Dr. Hays, who, I may add, is at the present moment quite unknown to me, save by name."

University College, London.—According to the "British Medical Journal," the late Mr. Richard Quain bequeathed to the college nearly the whole of his fortune, amounting to about £75,000.

The late Dr. Joseph C. Hutchison.—At the regular meeting of the Board of Regents of the Long Island College Hospital, held October 3, 1887, the following was entered on the minutes:

"The members of the board, having heard with unfeigned sorrow and regret of the death of Joseph C. Hutchison, M. D., president of the collegiate department, are deeply impressed with the great loss the institution under their care has sustained by being deprived of his counsel and aid. Dr. Hutchison was an industrious worker, an eminent surgeon, and a good citizen. He was a thorough scholar and a successful teacher. He was highly esteemed by his professional brethren, and was loved and respected by all who knew him. He brought to the advancement of the interests of the college a mature mind, a ripe judgment, and a steady, faithful, and sincere application that promised much for the future, thus fulfilling the highest hopes of his fitness for the place he occupied."

On motion it was *Resolved*, That a copy of the foregoing minutes be signed by the president and secretary, and sent to the family of Dr. Hutchison, and that copies be also supplied to the press for publication.

[Signed] W. T. Osborne, *Secretary.*
Thomas H. Rodman, *President.*

The New York Post-graduate Medical School and Hospital.—We learn that Dr. Milton Josiah Roberts has resigned the professorship of orthopædic surgery and mechanical therapeutics.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 8, 1887:*

Martin, William, Assistant Surgeon. Detached from Hospital, Norfolk, and granted sixty days' leave.

Bates, N. L., Medical Inspector. Detached from the Naval Dispensary, and ordered to the Examining and Retiring Board.

Price, A. F., Surgeon. Ordered to the Naval Dispensary, Washington, D. C.

Waggener, J. R., Surgeon. Ordered to the Receiving-ship Minnesota.

Fitzsimmons, Paul, Surgeon. Detached from the Minnesota, and ordered to the Marion. October 15th.

Atlee, Louis W., Assistant Surgeon. Detached from the Receiving-ship Vermont and ordered to the Marion. October 15th.

Rush, W. H., Passed Assistant Surgeon. Detached from the Coast-Survey Steamer Blake and ordered to the Navy Yard, New York.

Berryhill, T. A., Assistant Surgeon. Detached from the Minnesota and ordered to the Blake.

Drennan, M. C., Surgeon. Detached from the Naval Academy and to wait orders.

Society Meetings for the Coming Week:

Monday, *October 24th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *October 25th:* New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo, N. Y., Obstetrical Society (private); Medical Societies of the Counties of Queens (semi-annual, Garden City) and Rockland (semi-annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *October 26th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Albany, N. Y.; Gloucester, N. J., County Medical Society (quarterly); Middlesex, Mass., North District Medical Society (Lowell); Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society (conversational).

Thursday, *October 27th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Massachusetts Medical Benevolent Society (annual, Boston); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia.

Friday, *October 28th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

ON THE EFFECTIVE, RAPID, AND SAFE INDUCTION OF GENERAL ANÆSTHESIA.

26 West Forty-seventh Street, *October 10, 1887.*

To the Editor of the New York Medical Journal:

Sir: Any one who has had occasion to administer anæsthetics to a considerable extent must have been impressed by the great difficulty often experienced in etherizing individuals of large and robust constitution. Some years ago, while I was serving a portion of my medical apprenticeship with the late Dr. J. Marion Sims, my attention was often attracted to this phenomenon, and I remember to have had many a discussion on the subject with my illustrious preceptor. In those days we used to hear a great deal about "smothering" patients who were difficult to bring under the influence of the anæsthetic. By this was meant pressing the ether-cone down upon the face, so as to admit of the ingress of but a small amount of air—in other words, partial asphyxiation. Sometimes, too, in very intractable persons, nitrous-oxide gas was given before proceeding to the administration of ether, or, where the gas was not available, a hypodermic injection of morphine was resorted to as a preliminary expedient. When, some time after serving my medical and surgical apprenticeship, my energies became exclusively directed to the study of nervous and mental affections, my thoughts would often involuntarily recur to my early experience with anæsthetics. Thus, while walking through the street on one occasion, I observed a small, thin man walking arm in arm with a fellow-companion, who was large and fleshy. Both these persons were evidently intoxicated, but the smaller man was much more profoundly affected than his larger companion, to whom he clung for support. On making inquiry of bar-keepers and others who have had occasion to witness the various phases of intoxication, I subsequently learned that it was a very ordinary occurrence to find a large, vigorous individual drink with impunity a quantity sufficient to render a small and less robust person hopelessly intoxicated. This disparity of effect, it seemed to me, could only be accounted for on the ground of the difference in the blood-quantity of the average large and small persons. In other words, there is less blood to saturate in a small individual than in one of greater weight and size. But, if this proportion is true, we ought, by shutting off a certain portion of the circulation, to be able with a smaller quantity of alcohol to produce equally pronounced effects in a shorter space of time. And this, in truth, we may accomplish; for I have observed that, if a strong band is secured around each thigh so as to effectually interrupt the circulation, and then a moderate quantity of alcohol is given, the effects of the latter upon the central nervous system are greatly enhanced. By this I mean that mental inco-ordination and the other accompaniments of intoxication may be produced by the introduction into the stomach of a relatively small quantity of alcohol—an amount which, were there no ligatures about the limbs, would have been wholly inadequate to the production of the phenomena. To thoroughly appreciate the principles involved, it is necessary to bear in mind that, when we place the ligatures about the thighs so as to interrupt the circulation in both arteries and veins, we enormously cut down the amount of blood actively circulating. As a consequence we require less alcohol, and less time as well, to saturate this active blood-mass to a sufficient extent with alcohol to produce a profound impression upon the cerebro-spinal axis. What is true of alcohol applies with equal force to ether anæsthesia. The following observation exhibits this physiological relationship in a sufficiently striking manner:

Some time since, there was admitted into the Manhattan Eye and Ear Hospital a man who had been addicted to the abuse of alcohol. Shortly after his entrance into the hospital he was anæsthetized for the purpose of performing an operation upon one of his eyes. The time consumed in etherization, on this occasion, was from six to seven minutes. On the 10th of October it became necessary to perform a second operation, and, at the invitation of Dr. David Webster, ophthalmic surgeon to the hospital, I attended, and sought, by the application of the principles above referred to, to diminish the time required to etherize the patient. The simple procedure resorted to was as follows: A strong, flat elastic tourniquet was secured around each of the patient's thighs, so as to arrest both the arterial and venous blood-flow in the same. By this procedure each limb was converted into a species of receptaculum for a considerable proportion of the total blood-mass, or, as a distinguished friend of mine who was present put it, "about one third of the man was cut off," and consequently it was only necessary to saturate the remaining two thirds (of the total blood-mass). The ligatures being in place, the ether cone was applied over the mouth and face of the patient, and in about three minutes by the watch (according to Dr. N. J. Hepburn, who was present and paid particular attention to this portion of the investigation) the patient was anæsthetized. Dr. Webster then performed the operation of iridectomy. On the completion of the operation, the ligatures were removed and the patient recovered from the effects of the ether instantly. This rapid recovery from the effects of the anæsthetic created considerable comment from the medical gentlemen present, and was certainly a very interesting phenomenon from whatever physiological standpoint one chooses to view it. The following gentlemen were present during the entire *séance:* Dr. David Webster, Dr. George F. Carey, Dr. J. Oscroft Tansley, Dr. F. W. Ring, Dr. N. J. Hepburn, Dr. W. M. Leszynsky, and others.

Should I again have occasion to test this mode of inducing general anæsthesia, I shall ligate the arms as well as the lower limbs, placing the ligature as near the axilla as possible. It is clear that by so doing the amount of blood excluded from the influence of the anæsthetic may be largely increased, and the effectiveness of the whole procedure proportionately enhanced. I would merely add that in 1880 I first administered chloroform, ether, and nitrous-oxide gas in conjunction with pressure applied to the carotid arteries, seeking thereby to confine (retard) the blood, saturated with the anæsthetic, for a prolonged period in contact with the cerebral ganglia. These experiments were subsequently published ("Carotid Compression," Anson D. F. Randolph & Co., New York, 1882). This was the first time in medical history that an attempt was made to confine a sedative substance in prolonged contact with nervous tissue for therapeutic purposes by arresting the circulation. It was this principle which I subsequently extended to anæsthesia of the peripheral nerves.

I have ventured to present the foregoing considerations, not so much in the light of a physiological finality as with a view to inciting further research in a field which events may prove to be not wholly devoid of practical interest.

J. Leonard Corning.

THE STARVATION OF THE GONOCOCCUS.

208 Second Avenue, *October 17, 1887.*

To the Editor of the New York Medical Journal:

Sir: I wish to add a few practical remarks to the very learned and most valuable article by Dr. O. T. Osborne, of New Haven, Conn., entitled "The Abortive Treatment of Gonorrhœa," which appeared in your Journal for October 8th.

Dr. Osborne quotes from Dr. Currier, who says that the bismuth injection does not kill the germs, but starves them, and Dr. Osborne adds: "This is certainly difficult to believe." Such starvation of germs has, however, been explained. Küchenmeister—I can not give a precise reference to his paper, but it appeared before 1882—recommended injections of diluted lime-water (1 to 4) in the initial stage of gonorrhœa, saying that such injections acted like lime-water applications on diphtheritic membranes—*i. e.*, by dissolving the inflamed membrane to a certain extent, and thus removing the ground the gonococci were living upon. He further maintained that by such lime-water treatment—the injections to be repeated hourly—the inflammation would at once be reduced and the acute stage much shortened, and especially that the pain in micturition and the painful erections at night would be mitigated, the process passing at once, after a day or two, into the second, or subacute stage, admitting of astringent injections. Before I knew of a new method, of which I shall speak farther on, I followed Küchenmeister's treatment, and found that what he had alleged for it was confirmed. Sodium-bicarbonate solutions, recently recommended, and mentioned by Dr. Osborne, act on the same principle.

Koenig ("Therapeutische Monatshefte," April, 1887), speaking of iodoform, says that it is not a direct antiseptic, that it does not destroy bacteria, that it even has to be protected against the invasion of micro-organisms, but that it acts on wound surfaces in such a manner that it sterilizes them, thus promoting the healing process by destroying the ground on which the micro-organisms are living. In other words, lime-water, bicarbonate of sodium, and iodoform starve the germs. So do bismuth, oxide of zinc, and many other alteratives and astringents. Kocher introduced bismuth as a direct antiseptic, and Socin did the same thing in the case of oxide of zinc. They both committed the same error that von Mosetig-Moorhof had committed in introducing iodoform as a direct antiseptic. We have heard much of late for and against iodoform, and I think that Koenig has found the solution of the question as to how far the drug is or is not an antiseptic.

In preference to injections, and also in preference to the gelatin bougies mentioned by Dr. Osborne, I now employ a new contrivance, the invention of Dr. Paul Francke, of Chemnitz, Saxony, called the antrophore (in German, *Antrophor;* from ἄντρον, a cavity, and φορεῖν, to carry—a carrier into a cavity). This instrument certainly has the advantage, in the first place, of being of service in all forms and stages of gonorrhœa—an advantage that can not be alleged for either injections or bougies. The antrophore consists of a nickel-plated tube formed by a closely wound spiral coil of wire, to one end of which is fastened a small rivet with a hemispherical head, while the other end bears a ring to serve as a handle. These are both neatly soldered in place. Having no core, the tube possesses great elasticity and pliability, yet it is very firm when pushed in a straight direction. These tubes, or skeletons, are nickel-plated or coated with a thin film of shellac, to protect them from oxidation by the air or the action of the chemicals that may be used in the medicaments. To a mixture of gelatin and glycerin in such proportions that the melting-point is 82° F. is added a two-per-cent. solution of carbolic acid, to secure an aseptic condition, and finally the medicinal agent is added in various amounts suitable to the cases to be treated. Into this composition the skeletons are dipped at a temperature of 86°, then they are hung up by the handle, to become hard by cooling. The process is repeated until they have taken up the requisite amount of material. While they are hung up, a drop-shaped end is formed. In order to prevent the finished antrophores from adhering together, they are dusted with talc, which must be washed off with cold water when they are to be applied. The pliability of the instrument allows of its entering any channel, even one that is tortuous or choked, and the same property admits of its being kept in place often as long as thirty minutes, so that the medicated preparation may liquefy slowly and remain in close contact with the diseased portion of the urethra.

Dr. Osborne's citation of Goll's experience with thalline interested me very much, as I too have treated a number of cases with this new drug. According to Kreis's experiments, published in January, 1887, thalline is the very specific against gonococci, and perhaps the long-searched-for means for abortive treatment. In a case of acute gonorrhœic inflammation, I first tried an injection of a weak solution of thalline, but found that it caused too much pain; then I tried an injection of pure cold water, and found that that likewise gave pain—rather more than the thalline injection, instead of less. I then introduced an antrophore charged with a five-per-cent. thalline mass, and to my surprise found no difficulty and caused no pain whatever. This case was a very severe one, characterized by extensive lymphangeitis with fever, unusually violent pain on micturition, and painful nocturnal erections. It appeared to me that the thalline antrophore did more service in alleviating all these symptoms and shortening the process than any treatment I had ever employed or heard of. Of course, it would be premature to form a judgment from a single case, but from all that we hear of thalline I think it deserves a fair trial in the treatment of gonorrhœa, and I would recommend the thalline antrophores, especially during the stage of acute inflammation.

A. Rose.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN OBSTETRICS.

The President, Dr. De Laskie Miller, of Chicago, in the Chair.

The President's Address.—The President read an address in which, after warmly welcoming the members and thanking the officers of the section for their valuable labors, he spoke more particularly of craniotomy, expressing the belief that it was fraught with more dangers to the maternal parts than was generally recognized, and that the operation should be adopted only in a limited number of cases: of extra-uterine pregnancy, which should be diagnosticated early and fœtal life destroyed by electricity; and of the puerperal state, in which too much care could not be taken not to infect the woman, but we should also strive, in carrying out antisepsis, not to cause toxæmia; strict cleanliness in the lying-in chamber was safe antisepsis.

On the Contractions of the Uterus throughout Pregnancy, and their Value in the Diagnosis of Pregnancy, both Normal and Complicated.—Dr. J. Braxton Hicks, of London, sent a paper, which was read by Dr. Earle, of Chicago. The author showed that during utero-gestation there were uterine contractions, the intervals being from five to twenty minutes. After the fourth month these contractions could be recognized by external palpation alone. Before that period bimanual palpation was necessary. During the intervals the uterus was soft; during the contractions it became firm, and could easily be recognized by palpation. These contractions were of value in diagnosticating between pregnancy and tumors. The physiological value of the contractions was to empty the veins of carbonized blood. It was probably the carbonized blood that caused the contractions.

Dr. A. R. Simpson, of Edinburgh, corroborated the author's statements concerning the value of uterine contractions throughout pregnancy in differential diagnosis.

Dr. A. F. A. King, of Washington, and Dr. Charpentier, of Paris, made some remarks upon the paper.

Vicarious Menstruation.—Dr. Duncan C. MacCallum, of Montreal, had been prompted to write this paper by the diverse opinions which prevailed regarding vicarious menstruation. He cited four cases which he thought were true cases of vicarious menstruation. In two the hæmorrhage took place from the stomach, in one from the lungs, in the other from the nose. The characteristics of all cases of vicarious menstruation were the absence of flow from the uterus, and a flow of blood from some other organ which could be accounted for in no other way than by the unusual blood tension at the menstrual epoch. Sphygmographic tracings were shown in illustration of such premenstrual blood-tension.

Dr. Parkes, of Chicago, Dr. Nelson, of Chicago, and Dr. Glisan, of Portland, Oregon, related cases of vicarious menstruation.

The Mechanics of the Delivery of the Child's Head by Forceps, with a Description of a New Normal Forceps.—Dr. T. Lazarewitch, of St. Petersburg, sent a paper with this title which was read by Dr. Jaggard. In the use of the ordinary cross-bladed forceps, the larger the child's head the less powerful the grasp. The forceps should be, as it were, a continuation of the hand, rendering it possible to grasp the child's head confined within a limited space. The smaller the dimensions of the blades the more skillfully could they be guided, and the less the injury which would result from their incorrect application. The detrimental action of the blades increased with their breadth, and with the rigidity with which their parallelism was maintained. The convex margin of the extremities of the blades should not be so thin as to cut and wound the soft parts of the mother, nor so thick as to obstruct the introduction of the blades. The lock should admit of easy and sure locking of the two halves, and also of slight turning on the longitudinal axis, which allowed them to be accommodated to the fœtal head and the walls of the parturient canal. The handles of the author's forceps were so arranged that unnecessary pressure on the head was avoided. The surface of the blades should be smooth, favoring strict antisepsis. The pelvic curve of the blade was not only useless, but prejudicial in not permitting the ends of the blades to grasp the head properly. The author spoke of his forceps as a parallel forceps and as a normal forceps.

An Improved Forceps with Parallel Branches.—Dr. W. S. Stewart, of Philadelphia, presented a forceps with parallel branches, which admitted of applying either blade first. It was not possible for the blades to slip if properly applied, and there was moderate and uniform compression. He thought the instrument admitted of greater facility of making traction.

The Influence of Leukæmia on Pregnancy.—Dr. J. C. Cameron, of Montreal, said that scarcely anything had been written on the influence of leukæmia upon the organs of reproduction and the course of pregnancy. He then gave the history of a case of leukæmia in a woman in whose family it was hereditary. Accurate observations of the ratio of red blood-corpuscles to the white were made during the course of one pregnancy, and it was found that the white corpuscles were much increased in number. In the child at birth the relative number of white and red blood-corpuscles was normal.

Experimental Uræmia.—Dr. A. Charpentier, of Paris, in this paper detailed certain experiments on pregnant animals, showing that the injection of an excess of urea into the circulation caused death of the fœtus first, and of the mother afterward.

Dr. W. T. Lusk, of New York, had thought that death of the fœtus in uræmia was due to carbonic acid, and not to an excess of urea, as this might be present and the fœtus still live.

Uniformity in Obstetrical Literature.—Dr. Alexander R. Simpson, of Edinburgh, read a paper, including a report on uniformity in obstetrical nomenclature.

The Prognosis of the Cæsarean Section.—Dr. W. T. Lusk, of New York, gave the earlier statistics of this operation, and showed that death occurring when the improved suture was employed was due to preventable causes. Further causes for unfavorable statistics in this country were the fact that the operation was not undertaken until the woman had been exhausted by other methods of effecting delivery, and the limited experience of the operators. The advantages of Cæsarean section over craniotomy in pelves with a conjugate diameter under three inches were too great to admit of hesitation in choosing between the two operations.

Cæsarean Section.—Dr. M. Sänger, of Leipsic, sent a paper, an abstract of which was read in English. The points to which the author called particular attention were antisepsis, the abdominal incision, which should be in the linea alba, about sixteen centimetres in length, the avoidance of constricting the child by the elastic ligature, and the uterine suture. Silk or catgut should be used. The indications for choice between the several operations were considered.

Abdominal Section for the Removal of the Fœtus.—Dr. W. H. Wathen, of Louisville, read a paper, in which he advocated the performance of abdominal section in all cases, when the child was living, in preference to craniotomy.

The Treatment and Surgical Restoration of the Cervix Uteri during Pregnancy.—Dr. A. Doléris, of Paris, furnished a paper on this subject. The author described one of several cases in which there was a double laceration of the cervix uteri, from which at a subsequent pregnancy a disagreeable fœtid discharge took place, with other painful symptoms. Having failed to give relief by other measures, Dr. Doléris performed trachelorrhaphy. The operation was brief, and gave relief from the symptoms without interfering with the course of pregnancy.

The Relation of the Atmosphere to Puerperal Fever.—Dr. Joseph Kucher, of New York, read a paper, pointing out the evil influences of impure air, but not maintaining that sepsis could occur except by contamination of wounds.

On the Prevention and Treatment of Puerperal Septicæmia.—Dr. Thomas More Madden, of Dublin, sent a paper of which the following is an extract: Under this term the writer included all forms of septic fever consequent on parturition and occurring within the puerperal period. These, whatever different phases they might assume, or however named, were in reality manifestations of a specific puerperal fever, the character of which was modified in each instance by the general condition of the patient, the intensity of the septic intoxication, and the prevailing epidemic constitution of the atmosphere. Puerperal septicæmia might originate in three ways, viz.: from inoculation with the micrococci of clinically allied diseases, such as erysipelas or scarlet fever; secondly, and more frequently, by infection from the pathognomonic chain-like micro-organisms evolved by other puerperal-fever patients; and thirdly, from infection with self-generated septic matter. If these views were admitted, the utter impossibility of ever permanently and completely stamping out puerperal septicæmia by any of the measures yet suggested must be apparent. More especially Utopian would the realization of this idea appear in the crowded maternity wards of hospitals, general or special, constantly occupied by lying-in women, in which septicæmia was liable to develop with a rapidity and virulence that apparently defied both prevention and treatment. Although absolute immunity from puerperal fever must, unfortunately, in our present state of knowledge, be considered as hopeless, unquestionably its prevalence might be much diminished and its virulence minimized by the rigid observance of judicious precautionary antiseptic and hygienic measures, such as many of those formulated by Dr. Fordyce Barker, of New York, and acted on with marked advantage in the present practice of the Dublin Lying-in Hospital. The writer dwelt at some length on the prophylaxis of puerperal septicæmia, and detailed the plan of treatment which, from long clinical experience of its value, he had adopted, and for this purpose strongly recommended the administration of the chlorates of iron, potassium, and quinine during the latter months of pregnancy. In this connection the great importance of a strict supervision of the functions of the nurse in reference to the patient's general and local hygiene and aseptic condition was insisted on, and, above all, the author urged the advisability in all cases of the obstetrician himself washing out the uterine cavity daily with a weak carbolic-acid injection (which he much preferred to the corrosive-sublimate solution) throughout the whole puerperal period, during which, from the first, he invariably gave ergot in large doses, twice or thrice a day, until the uterus had permanently regained its normal size and condition. The treatment of puerperal fever must be governed by the special form of the disease and the condition of the patient in each case. The prevailing type had changed repeatedly in the various epidemics of the disease that had come under or within the writer's clinical experience in hospital and consultation practice during the past twenty years. At the present time we most frequently met with a distinctly remittent form of septicæmic fever after parturition. And in these cases he relied primarily on the maintenance of the patient's strength by suitable nourishment and stimulants; secondly, on the daily washing out of the uterine cavity with hot water, plain or medicated; thirdly, in the way of medicine, on full doses of quinine and turpentine. The latter he regarded as the most valuable of all drugs in every form of puerperal fever, and believed that it acted not only as a most potent stimulant, and as a depurating agent by its action on the excretory organs, but also probably directly arrested the development of the micro-organisms which were so intimately connected with the phenomena of puerperal septicæmia. In all such cases he believed that turpentine should be given by the mouth or rectum in as large doses and as long as its use could be persevered with.

A Study of Certain Questions in Connection with Puerperal Fever, with Particular Reference to the Use of the Intra-uterine Douche and the Curette.—Dr. C. W. Earle, of Chicago, presented a paper in which he took the ground that puerperal fever was always due to a poison introduced from without, and that the only rational treatment consisted in removing decomposing materials in the parturient tract and in preventing the local poison from infecting the general system. When there was continued high elevation of temperature, he would wash out the uterus and remove remaining portions of the placenta with the curette.

The Prevention of Puerperal Fever.—Dr. R. L. Sibbett, of Carlisle, Pa., read a paper on this subject. His views regarding the cause of puerperal fever were in harmony with those of the author of the previous paper, but he thought the intra-uterine douche could not be used by unskilled hands without danger.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 12, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

Chronic Rhinitis as an Ætiological Factor of Acne of the Face.—Dr. Carl Seiler read the following paper:

For a number of years I have made the observation that acne vulgaris and acne rosacea co-existed frequently with chronic rhinitis, and particularly with the atrophic form of nasal catarrh, but it is only lately that I have come to the conclusion that this form of nasal disease is in many cases of acne the exciting cause. This conclusion may seem far-fetched and perhaps unreasonable at first glance, but I hope to be able to show that there is undoubtedly a close connection between the two affections. For this purpose I will give a short history of a few of the cases which have come under my observation, before entering upon a theoretical discussion of the connection between chronic rhinitis and acne.

Case I.—J. H., aged thirty-eight years, a broker, consulted me for chronic nasal catarrh. He stated that he had suffered from stoppage of the nose for several years, and that every morning he blew out large scabs. After this his nose felt clear but dry, and he had lost the sense of smell to a very large degree. For two or three years he had noticed a redness of the external integument of the nose, which had gradually become worse, so that at the time I saw him it had spread from the nose to the cheeks, and pimples had made their appearance. The rest of his face was free from pimples or redness. On inquiry as to his habits, he said that he had always been a total abstainer from alcohol in any form, and the redness of his nose was the more annoying to him as it gave rise to jocose remarks on the part of his friends. His general health was good, and there were no symptoms of gastric disturbance. On examination, I found the anterior nasal chambers filled with dry scabs of hardened mucus, and, having removed them, saw that the mucous membrane below them was unusually pale, both on the septum and over the turbinated bones. The lower turbinated bone was barely projecting from the wall of the nose, and the turbinated cavernous tissue was apparently absent, as no impression could be made by pressure with the probe. This condition caused the anterior chambers to be abnormally large, so that the posterior wall of the naso-pharynx could easily be illuminated and viewed through the nostrils. Irritation with the probe caused but a very slight amount of moisture to gather around the spot touched, while the whole of the mucous membrane was abnormally dry. There was no odor.

The treatment consisted in cleansing the nasal cavities morning and night with an alkaline wash, and in stimulating the mucous membrane with dilute nitrate of silver in powder, a small quantity of which was blown into the nostrils two or three times a week. In order to keep up the stimulation, a tampon of cotton was introduced into the anterior nasal chambers placed against the side of the nose, in place of the atrophied inferior turbinated bone, which tampon was renewed by the patient after the cleansing morning and night. As an application to the skin I prescribed a lotion consisting of alcohol and precipitated sulphur, to be applied every night with a tuft of cotton, and to be washed off in the morning with soap and water.

Under this treatment the acne gradually diminished, and the mucous membrane of the nose again became bathed with secretion, until after a little over three months the redness had entirely disappeared, and the cotton tampons could be dispensed with, because the lower turbinated bones, or at least the cavernous tissue, began again to project into the lumen of the anterior nasal chambers. I saw the patient again three years later, unfortunately without having an opportunity of examining his nose, but he told me that there had been no return of the acne, and that his nose troubled him but little, and then only when he neglected to use the alkaline wash; the sense of smell had also returned to a large degree, but was not so acute as he might wish.

Case II.—A. L., aged twenty years, a machinist, from Wilmington, had had scarlet fever when ten years old, and since then had suffered from nasal catarrh. At about the age of puberty pimples began to appear on his face, which gradually became larger and more numerous, until, when I saw him, his face and even neck were covered with various-sized pustules in different stages of development. In the free spaces between them comedones were numerous, and at the angles of the jaw and on the neck there were large scars, forming pockets in some instances, caused by confluent acne pustules. His general health was good. On examination, I found practically the same condition of things as in Case I, except that a disagreeable odor was present, and a perforation of the septum existed. This latter circumstance led me to inquire for syphilitic infection, but I could not elicit anything pointing to the existence of even a taint, but found that he had been in the habit of picking off the scabs of hardened mucus from the lower portion of the septum with his finger-nail, and had thus gradually scratched a hole into the cartilaginous partition.

Having at that time a suspicion of the connection between atrophic rhinitis and acne, I directed, for the sake of experiment, the treatment solely to the nasal chambers, and intentionally made no applications to the acne pustules. The treatment in other respects was the same as that adopted in Case I. On account of the distance of the patient's home from the city, I saw him but seldom, and it was several months before much improvement was noticed. However, in the course of about eighteen months the acne had disappeared entirely, as had also the comedones, and the chronic rhinitis had so far yielded to the treatment that the patient considered himself cured.

Case III.—Miss E. S., aged twenty-two years, a school-teacher, whose general health was moderately good, had felt a stoppage of the right nostril for some years, while the left nasal chamber was free but very dry, so that she had to use cosmoline or cold cream every night before she felt at all comfortable. In the mornings she occasionally expelled a small scab of dried mucus of a yellowish-green color. On her face were numerous pimples and comedones, but distributed more largely on the left side. When asked, she stated that the pimples had made their appearance two or three years before, had always been more numerous on the left side of her face, and did not seem to have anything to do with her diet, as she had, by the advice of her physician, abstained from various articles of food for considerable periods of time, without apparently producing any effect upon the acne. Her monthly periods did not seem to her to produce any increase in the number of the pimples.

An examination of the nose proved this to be one of those cases which are occasionally met with in which we find an atrophic condition on one side co-existing with a hypertrophy of the turbinated cavernous tissue on the other. The left nasal chamber, being abnormally large, its mucous membrane pale and dry, and the lower turbinated bone hardly visible, presented the same characteristics as described above, and for this condition the same treatment was adopted—viz., stimulation with nitrate of silver and powder, and the cotton tampon after the dried secretion had been removed. The other nasal chamber presented the well-known features of the hypertrophic nasal catarrh, with its injected mucous membrane, from which a copious flow of secretion is poured at the slightest irritation, its projected turbinated tissue which obstructs the lumen of the lower meatus, and its frequent projections from the septum. Here an entirely different treatment had to be adopted, which it is needless to describe in detail; in fact, the two sides of the nose were treated as though they were two separate and distinct cases—the one an atrophic, and the other a hypertrophic rhinitis. The sulphur and alcoholic lotion was used in this case, as it was important to the patient to get rid of the acne as soon as possible, which happy result was accomplished in a remarkably short time, to her great delight.

These short notes of three cases will, I think, suffice to show that there is a connection between atrophic rhinitis and acne of the face. Although a large number of such cases could be cited to demonstrate this point still further, I think it would be waste of time to do so, as they are all more or less a repetition of each other.

According to the statements of the different authors on skin diseases, acne occurs with equal frequency in both sexes, usually makes its appearance at the time of puberty, and is frequent until the age of thirty. As predisposing causes are mentioned gastric disturbances, either lack of or excess of sexual connection, onanism, insomnia, and intemperance, but no mention is made, in any of the works to which I have had access, of atrophic rhinitis as a predisposing or existing cause. That the sexual organs have a great influence upon the production of the disease can not be doubted, for many cases are cited in which acne showed itself only during pregnancy or at the menstrual period in women; and it disappears with the cessation of the practice of self-abuse in boys and men; also, the fact that it is most frequent at puberty would point in that direction. Some authors lay so much stress upon this that they direct their treatment altogether to the sexual organs, by passing a bougie into the male urethra, and prescribing vaginal douches and medication, having no faith in local applications to the skin of the face.

Speaking of the pathology of acne, Veiel says: "The cause of the inflammation is the mechanical irritation by the inspissated secretion; the latter, again, is due to deficient glandular activity, because, owing to the defective elaboration of sebum, the secretion has time to dry in the efferent duct."

Behrend explains the new formation of acne efflorescence by assuming that the swelling of the inflammatory areola around the acne pustules and nodules occludes the efferent channels of neighboring glands. Similar views as to the pathology of the disease are expressed by others.

It would seem, therefore, that two factors must act in conjunction with each other to produce acne, the one to act as an obstruction to the efferent channel of the sebaceous glands by the introduction of dirt into it, and the drying of the secretion behind it, producing the so-called comedones, and also a diminution in the activity of the gland itself, which causes an alteration in the consistence and quantity of the secretion, which thus is not able to remove the foreign body in the mouth of the duct by pressure from behind, as undoubtedly occurs in the healthy skin. Thus the retention and accumulation of the secretion cause by pressure a localized inflammation, which is finally relieved by the formation and escape of pus. In acne rosacea, the rarer form of the disease, we find no formation of pustules, but simply a general more or less diffused inflammation, which is probably due also to a perverted action of the sebaceous glands, but does not lead to a retention of the secretion.

I have not been able to find an opinion expressed in any of the books as to the direct cause of the glandular irritation, whether it is altogether local, and caused by obstruction of the duct in the formation of comedones, or whether it is due to reflex nervous irritation, or, finally, is produced by a more or less general disturbance of the capillary circulation in the skin of the face.

The first of these propositions may at once be set down as insufficient to explain the pathological condition, for comedones are frequent in almost every face without being necessarily accompanied by acne. The two other propositions may be considered together, for we can not have inflammation without disturbance of the circulation, and no disturbance of the circulation without nerve influence.

The above-cited predisposing causes clearly indicate that an irritation of the nervous system must exist somewhere, be it in the mucous membrane of the stomach or in the sexual apparatus, which, by reflex, acts upon the easily influenced capillary circulation of the skin of the face and neck, and thus, by causing a change in the capillaries around the sebaceous glands, causes a perverted action of these glands if it is kept up for any length of time, or if no relief from blood-pressure is afforded. It is my belief that the cavernous tissue covering the turbinated bones provides such a relief, and that this is one of the functions of the erectile tissues of the body. This belief is strengthened by the fact that, under mental excitement which causes flushing of the face, the cavernous tissue in the nose swells up, while, on the contrary, with any emotion which causes paling of the face, the erectile tissue of the turbinated bones becomes paler, and diminishes markedly in bulk—facts well known to every laryngologist. Let this cavernous tissue be absent or greatly diminished, as is the case in atrophic rhinitis, and very little or no relief is afforded for the excessive blood-pressure in the capillary circulation in the skin of the face, and the result will be acne if any of the predisposing causes are present. In the cases above cited, and in many others under my observation, the acne disappeared *pari passu* with the reformation of the cavernous tissue, and thus these would seem to be of some importance as clinical proofs of this theory.

I am fully aware that a single line of cases observed by one observer is by no means a sufficient guarantee for the acceptance of a theory, and it will require many more cases observed by many observers to prove or disprove it. At the same time I can not but think that atrophic rhinitis may be one of the ætiological factors of acne.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of October 4, 1887.

The President, Dr. C. L. Dana, in the Chair.

The Arthropathy of Tabes.—Dr. W. H. Porter presented a specimen of the spinal cord and the knee joint from a case of tabes. The patient was a woman, thirty-two years old. The family history was good. There was no history of alcoholism or rheumatism in the case. In May of the present year ovariotomy had been done, and, with the exception of the formation of a ventral hernia, the patient had made a good recovery. The affection of the spinal cord dated from five months previously, and in February last a gradual increase in the size of the knee had been noted. As early as December 15th, however, the patient had suffered pain, and partial luxation had made standing difficult. Examination showed the right knee painful, but not swollen. The left knee presented subluxation, some fluid, and enlargement of the lower portion of the femur. There was some dyspnœa, also some headache. The patient also suffered with external hæmorrhoids, but the urine was normal, and the co-ordination good. The right knee measured 18 inches, and the left 21½. The patient was a large woman, weighing 300 pounds. The enlargement and the riding of the patella upon the joint were all the positive symptoms in the case, and the patient was transferred to the surgical ward. There continued to be a great deal of boring pain in the knee, but no puffy feeling in the feet, no anæsthesia, and no ocular trouble. The joint was excised with an apparently good result, but three weeks later, on August 10th, discoloration of the skin of the buttocks and of the small of the back appeared, and in the course of a day or two the part sloughed. The woman died, apparently of sepsis from the slough. Post mortem, the viscera were found healthy with the exception of the liver, which was pock-marked with cicatricial depressions. The right knee joint was found in good condition. Moderate changes of interstitial thickening were found in the spinal cord. The question was, whether this should be considered a case of ataxia, the only positive symptom being the boring pain. The supposition of tuberculosis had been entertained, but the excised joint had failed to show tubercular tissue or bacilli, and erosion of the bones had been the only discoverable change.

The President added that the spinal cord was now being examined by Dr. Græme M. Hammond, and there was no doubt that the posterior columns, particularly the postero-external columns, or columns of Burdach, were affected. It was a case of sclerosis of the cord, most marked in the posterior columns.

Dr. W. A. Hammond suggested that articular affections with locomotor ataxia were infrequent in this country as compared with France. He had never seen a case, although many cases of locomotor ataxia had passed under his notice. According to Charcot, they were very common, resembling in this the *grande hystérie*, which also seemed limited to France, and even to the walls of the Salpêtrière Hospital.

Dr. Porter stated that during the past year he had made post-mortem examinations in four cases of locomotor ataxia. In two of these there were joint affections, and in two there were none. They had been recognized during life in only one of the cases. He had never seen the condition before this year.

Dr. L. Weber referred to a case which had been presented the day before at the Society of German Physicians. He had seen others, but not such as would answer to Charcot's descriptions. Rosenthal, of Vienna, also had described severe joint affections in locomotor ataxia, but not in such great numbers. The speaker could point to a few cases out of 70 or 75, but as a rule the affection had not been destructive. It was acute; it would come and go, and complete restitution might occur. He referred to two cases. In one there were diabetes and locomotor ataxia, and in the other there was sclerosis of the cervical region of the cord. In this case it looked as if the cartilage and bone were invaded, as there were crackling and change in form. A case like that referred to as presented the day before, with intracapsular fracture and such extreme mobility, he had never seen before in this country.

The President, from an experience embracing two cases, had found that the term tabetic arthropathy did not mean the same thing under all conditions. One of the patients, whose case was of ten years' standing, slipped and fell, nearly dislocating a joint already loose, so as to present a typical arthropathy of this disease.

Melancholia due to the Prolonged Use of Morphine.—Dr. S. B. Lyon presented the history of a case of melancholia following the prolonged use of morphine for the relief of cardiac pain. The patient was a woman fifty years old, who for three years had suffered from a condition diagnosticated as angina pectoris, which only morphine relieved. From two to seven grains had been taken during the day. She had subsequently suffered with terrors and delusions similar to those of the morphine habit, but more persistent. Relief was obtained after the withdrawal of the drug and the removal of the patient to an asylum, away from the unwise attentions of her friends. The cure was sudden, complete banishment of her terrors and delusions occurring in a single day. A curious double consciousness characterized this case. While dominated by her delusions she preserved her ordinary consciousness, thus appearing to inhabit in thought both a real and an unreal realm. While insane, this patient was free from her cardiac pain. This subsequently appeared again, but yielded to electrical applications.

Dr. M. Putnam Jacobi considered the case very interesting. The conception of the ego as a simple unit was childish. Undoubtedly changes might occur in the groupings which went to form the consciousness of which the ego was made up. In this case there was destruction of the ordinary linkings of consciousness, with a replacement of the ordinary normal impressions by the formation of a new sphere. The aberrations produced by morphine and other toxic influences could be explained in like manner. The suddenness of the recovery in this case further demonstrated that the forced paths of association had ceased to be traveled and the old ones been resumed—a process which might be likened to the switching of an engine from one track to another.

Dr. Hammond objected to the term double consciousness in connection with the case. Double consciousness might be represented by plus and minus. The patient was not at the same moment in both conditions, but at different periods led separate lives, during the plus condition knowing nothing of what occurred during the minus condition, and *vice versa.*

Dr. E. C. Spitzka thought that the reader of the paper had used the term with the meaning of the French. The case was assuredly not one of double consciousness as the term was used by alienists. In double consciousness there was really a double ego with alternate consciousness.

Dr. Lyon recognized that the case was not one of double consciousness as Dr. Hammond and Dr. Spitzka had used the term. The patient had, however, a double consciousness in an ordinary acceptation of the word, with a real and an unreal aspect, the latter dominating.

A Discussion on the Use of Antipyrine and Antifebrine in Nervous Diseases was opened by Dr. T. S. Robertson. He had used antipyrine first, in general practice, in acute rheumatism, and it had appeared not only to reduce the fever, but to control the pain. This had led him to try it in a case of migraine which had resisted aconitine and chloral. He had subsequently given it in a hundred unselected cases. In 90 per cent. of these, relief had been obtained in from fifteen to forty-five minutes. He had given it without a stimulant, and diaphoresis was the only ill effect which he had seen. In the severe pains of tabes he had given from ten to twenty grains hypodermically, or from twenty to thirty by the mouth, with a resulting diminution in frequency. In insomnia, the sleep was better than that produced by chloral. The speaker had never seen heart failure. In hyperpyrexia he gave forty grains at a dose, and had himself taken one hundred and twenty grains in the course of twenty-four hours without any unpleasant result.

Dr. E. Waitzfelder had had an experience somewhat similar to Dr. Robertson's, but had given the drug with a stimulant, having found nausea and vomiting common where this was not used. He had given antipyrine in twenty miscellaneous cases of headache, producing relief in about 50 per cent. He had directed its use in the epileptic ward about three months ago. It had been thoroughly tried, but without any appreciable effect. He had used it for the pains of locomotor ataxia, but, while the patients had improved, he did not attribute this to the drug.

Dr. Hammond had used antipyrine, and his experience had been entirely negative. He had given both antipyrine and antifebrine, singly and combined, in neuralgia, the pain of locomotor ataxia, insomnia, vertigo, and headaches both of the anæmic and of the hyperæmic variety. His method of administration had been to give fifteen-grain doses three times a day, continued for from two to three weeks. A new drug was not needed to shorten an attack of migraine. A hypodermic injection of morphine would do it, or one hundred grains of bromide of sodium, or $\frac{1}{100}$ of a grain of nitro-glycerin, according to the variety. In a case of tuberculous meningitis in a child of two years he had given four-grain doses of antipyrine for the relief of pain, and had signally failed. He had given it in epilepsy without result.

The President asked whether Dr. Hammond had given antifebrine in epilepsy.

Dr. Hammond had given both antipyrine and antifebrine in fifteen-grain doses, with similar results, sometimes combining seven grains and a half of each. He referred to the insolubility of antipyrine making its administration difficult.

Dr. G. W. Jacoby thought it serviceable to hear the other side of this question. His own experience had resembled that of Dr. Hammond. Antipyrine gave some relief in migraine, at least following the first or second administration. It sometimes cut short insomnia, but that about comprised its usefulness in this field. It was not without danger. He had seen collapse from a dose of twenty grains.

Dr. M. Putnam Jacobi had given antifebrine in the infirmary to a child with pleuro-pneumonia, and, with lowering of the temperature, relief from pain also was produced, although the physical signs remained unaltered and defervescence occurred in a typical manner on the sixth day.

Dr. Sachs believed that antipyrine could be recommended only in migraine, possibly also in headache of a neurasthenic type. Cases should be followed up for a number of months. The results from two or three administrations should not be relied upon. He had given it in a dozen cases of migraine, with relief within twenty minutes after its first administration, and in no case had it been necessary to repeat the dose more than two or three times, at intervals of an hour. The only unsatisfactory cases had been those of the spastic type. The paralytic type had been in every case relieved. In one case, that of a man of thirty-two years, the condition had resisted all previous treatment. The patient every four weeks had to go to bed for from twelve to thirty-six hours, and was incapacitated for work for several days. Antipyrine did not entirely relieve the headache in this case, but the patient was able to continue his business during the paroxysm. In the speaker's experience, about 20 per cent. of the headaches of neurasthenic origin were relieved. In headaches of anæmic and gastric origin the treatment had been unsatisfactory. In insomnia, with and without migraine, antipyrine had appeared to act as a true narcotic. Sleep of nine hours and a half to ten hours followed the administration of two grains. He had used it in the lightning pains of locomotor ataxia and in peripheral neuralgias, particularly trigeminal and sciatic, without result. Antipyrine was not a panacea, and the speaker thought that it should be used carefully. He had met with no bad results himself, but from the reports of others it was evident that such results could occur.

The **President** expressed surprise that Dr. Hammond had been so unsuccessful in the use of antipyrine, and suggested that he keep a closer watch upon his clinical assistants. Dr. C. H. Brown professed to have been cured of a most violent migraine by antipyrine, and was enthusiastically prescribing it in Dr. Hammond's clinic. In the treatment of epilepsy, antipyrine could only be used empirically. Antifebrine, on the contrary, had been shown to act as a spinal depressant, and hence could be rationally prescribed.

Dr. **Robertson** had found antipyrine soluble in Vichy water. He considered a dose of from 20 to 30 grains safe. He had not maintained that it cured, but that it acted as a palliative in the conditions named.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Continued from page* 363.)

On Occlusion of the Posterior Nares.—Dr. A. W. **MacCoy**, of Philadelphia, read a paper on this subject (see page 457).

Dr. **William C. Jarvis**, of New York: I can not agree with the reader in all respects. My transfixion needle, devised for the removal of turbinated hypertrophies, has not met with the favor which I think it should. I have employed it five or six years, and its utility has exceeded my most sanguine anticipation. The reason why the needles have not been more used is, I think, because they are not properly employed. I have myself gained efficiency in their use only after months of persistent practice. I depend upon the sense of touch almost entirely in transfixing redundant tissues. I would not exchange the needles for the galvano-cautery, chromic acid, or any other measure designed for the removal of turbinated tissues. They are, of course, always employed in conjunction with the wire-snare. I have also noticed, as Dr. MacCoy has pointed out, that if, before attempting to snare a posterior turbinated hypertrophy, cocaine is applied, the attempt will prove a failure, the cocaine invariably causing contraction of the cavernous tissue. My rule is to first draw the wire around the hypertrophy, and then to apply the cocaine. I am surprised that the question of the unfailing utility of chromic acid should have been brought up, for it is now well known that this is not so harmless an agent as some proclaim it to be. I have seen it produce œdema of the fauces and severe turgescence of the turbinated tissues. A number of patients have been driven to my office by laryngologists simply because they had insisted upon using chromic acid, despite the knowledge of its baneful effects. By the use of the needles I can accomplish in a few seconds or a few minutes all that could be accomplished during weeks by chromic acid, and without the unpleasant results of the latter. It should not be forgotten that chromic acid has even set up dangerous erysipelas, and such a result is liable to follow the use of any caustic in the nose.

Dr. C. C. **Rice**, of New York: I think this one of the most important subjects which have been discussed during the session, for it concerns something which calls for treatment every day. I agree with Dr. MacCoy, and not with Dr. Jarvis. I have used the needles, but have finally given them up. The turbinated tissues are difficult to transfix, the operation is painful to the patient, and in many patients it is very difficult to apply the posterior loop because of the condition of the septum. Dr. Jarvis has not spoken of hæmorrhage, but one gentleman has recommended operating slowly to prevent this, while another tightens the wire rapidly, and then plugs the nostrils. Now, the danger of hæmorrhage I think is not great, but, at the same time, if the necessity for the patient going about two or three days with the nose plugged could be avoided, I think it would be an advantage. I have not seen the disadvantages of chromic acid spoken of by Dr. Jarvis, although I have used it often with most satisfactory results.

Dr. **Donaldson**, of Baltimore: I agree entirely with Dr. Rice regarding chromic acid. Neither I nor Dr. Donaldson, Sr., have seen any trouble follow its use. I have not had favorable experience with the needles.

Dr. D. **Bryson Delavan**: Mr. President, I have studied the comparative merits of the snare, the galvano-cautery, and chromic acid for some time past, and find that patients, almost without exception, prefer the two former, and object to the acid on account of the pain and irritation which it excites, and which are apt to continue for a long while after the application is made. As to the danger of hæmorrhage after removal of posterior hypertrophies by the snare, I have never seen any which was not readily controlled.

Dr. **Jarvis**: To attempt to remove a posterior hypertrophy when the nostril is obstructed by a deformed septum is exceedingly poor surgery. The septal deformity should first be overcome. Moreover, I have never found it necessary to attack a turbinated body after removing a deflected septum; its turgescence will subside after nasal respiration has been restored.

Dr. **MacCoy** said that evidently the remarks of Dr. Jarvis concerning his (the speaker's) use of the needles could be applied to Dr. Jarvis's use of the chromic acid. The acid could not have been applied by him in the way the speaker had recommended. If it was applied from behind the palate without having it properly guarded, it was very likely to touch healthy tissues and do harm. Used in small amount, and put on with precision, it would cause scarcely any disturbance. It should be neutralized immediately after its application.

The Treatment of Atrophic Rhinitis by Applications of the Galvanic Current.—Dr. D. B. **Delavan**, of New York, read a paper with this title (see page 458).

Dr. T. A. **De Blois**, of Boston: I was glad to hear Dr. Delavan's paper on this subject, as I have had opportunity to employ the method in two cases—one a case of hypertrophic, the other a case of atrophic, rhinitis. In the atrophic case there was also almost complete loss of smell and taste. The patient was under the treatment about six months, coming about three times a week. I did not measure the current, but I usually used from two to four small cells and the interrupted current. I had a positive electrode which I usually applied to the tongue; the negative electrode I made myself, passing brass wire through a small gum catheter, the terminal end being tipped with platinum. With this electrode I would start at the posterior part of the nose and draw the electrode along until it reached the anterior nares. The improvement was very great after two months. It is now six months, and there has been no return of his catarrhal trouble. His smell has become quite good; the taste has improved a little. The hypertrophic case was not very much relieved. In that case there was considerable swelling at the orifice of the Eustachian tube, together with a good deal of deafness. I would pass the inductor entirely through and around these swellings, but very little improvement resulted.

Dr. F. I. Knight, of Boston: I would ask the gentlemen what their experience has been with Gottstein's method. I am induced to do this because at first I was not inclined to give trial even to his method of treating atrophic rhinitis by plugging the nares. It seemed rather ridiculous in theory, but some time afterward, on putting it into practice, I found that in some cases it gave the greatest amount of satisfaction to patients and their friends, because of doing away with the disagreeable odor. I plug one nostril with absorbent cotton or plain cotton three hours in the morning, and the other three hours in the afternoon. The relief in some of the most offensive and intractable cases has been great in my hands, causing entire disappearance of the disagreeable odor. It seems to me that in these chronic atrophic cases the plug can do no harm. In fact, we try to excite irritation. I have never seen any irritation which was objectionable; although in some cases there has been sufficient irritation to change the character of the secretion and to make it less offensive, I have never known it necessary to discontinue the treatment.

Dr. J. N. Mackenzie, of Baltimore: I have tried all sorts of plugs in the nasal cavity, and have found that they are excellent irritants, but nothing else. If you exclude the air from the inflamed surface in the acute variety of nasal inflammation you will give relief, but you can do that as well with a little piece of cotton. My experience with all forms of plugs in the nasal chambers has been bad.

Dr. F. I. Knight: I do not think it quite fair to suggest that any reasonable man would suppose he was curing an ozæna by stopping up the nose. That is not what Gottstein, Mackenzie, of London, or any man means when he says the odor is removed by this method; they mean, as I mean, that when the patient goes out afterward without any plug in his nose he is free from any odor. He is not obliged to go about with his nose plugged up. He wears the plug a few hours at home, and then, when he goes out into society without it, the disagreeable odor is not perceptible.

Dr. J. H. Hartman, of Baltimore: Some years ago a paper was read before this association on the treatment of atrophic rhinitis. I then spoke of Gottstein's plugs, having myself tried them in a number of cases. I think the benefit is from stimulating the tissue and altering the character of its secretion. And I have no doubt that in the treatment with the galvanic current the same result is accomplished. It may be more thoroughly done in that way, but I believe that all the results which we get in the treatment of atrophic rhinitis come from stimulation of the parts and keeping them thoroughly cleansed from secretions.

Dr. C. E. Sajous, of Philadelphia: I observed that Dr. Delavan made use of the negative pole in the nose. Now, of the two poles the negative is the more irritating, which goes to show that the benefit derived from galvanism is by stimulation. Further proof that the beneficial effect of treatment is due to stimulation is shown, I think, by the results of chromic acid, which I have employed in a few cases. I simply allowed the acid to be exposed to the air for some time, which gave me a saturated solution, and applied the latter over the atrophied surfaces about twice a week. In two cases so far it has given absolute relief. One of the patients I saw about seven months ago, and there had been no recurrence of her symptoms.

Dr. J. O. Roe, of Rochester: I quite agree with Dr. Mackenzie that Gottstein's plugs act as irritants. I have used them in several cases with no other effect than to keep the offensive odor in and to cause irritation instead of stimulation, which latter effect Gottstein alleges for them. The attempt to remove or prevent the odor of ozæna by these plugs suggests to me the quack who went about the country guaranteeing to cure otorrhœa at one sitting. His patients who were so speedily cured found shortly afterward that their ears had simply been filled with plaster of Paris to prevent the discharge from escaping. In atrophic rhinitis stimulation is what we want. I have recently used galvanism in several cases, and believe it to be, as Dr. Delavan has so clearly pointed out to us, the best stimulant we have in this affection, and in all these cases I have obtained most excellent results by its employment. In fact, in some most aggravated cases the patients have been so far benefited that they no longer suffer any unpleasant symptoms, and the odor has entirely disappeared. I have also employed, as a stimulant in these cases, with most excellent results, a weak solution of nitrate of silver (from five to ten grains to the ounce). The nose should be *thoroughly* cleansed and the solution applied, with cotton wound on a small probe, to every portion of the diseased membrane. Some cases of atrophic rhinitis may be so far advanced that there are very few glands left to secrete mucus, but I believe that by thorough and persistent treatment all these cases can be so far improved that all offensive odor will disappear, and the patient be relieved from all unpleasant symptoms other than those occasioned by the accumulation of mucous secretions over the parts where the mucous glands have been obliterated.

Recurrent Naso-pharyngeal Tumor.—Dr. R. P Lincoln, of New York, related the history of a case (see page 459).

Dr. D. Bryson Delavan, of New York: I had the pleasure of seeing on two occasions the patient whose case has just been related. When I saw him during the latter part of July, 1886, the growth had been absorbed to such an extent that its site alone was demonstrable. As to the treatment pursued by Dr. Lincoln, it seems unfortunate to me that the merits of this method, as well as those of the operation by means of the galvano-cautery, so brilliantly and incontestably established both in this country and in Europe, should be persistently denied by many general surgeons. It has been my privilege during the last fifteen years to witness a considerable number of operations for the removal of retro-pharyngeal tumors by the more severe surgical procedures, and from what I know of them I am forced to believe that many unsuccessful results have been allowed to go unrecorded. In other words, I think it more than probable that the actual rate of mortality has been higher than would appear from the published records.

Dr. S. W. Langmaid, of Boston: It seems to me this is a most interesting case. I do not know how often this operation has been done, but everybody familiar with these tumors knows how destructive they are, and how necessary it is to remove them, and, when they are removed by the snare, galvano-cautery, or section of the bones of the face, how frequently they return.

Dr. Glasgow and Dr. Cohen thought the excellent results of the treatment of these naso-pharyngeal growths by electrolysis obtained by Dr. Lincoln, and the dangers attending the cutting operation, spoke highly in favor of giving the former method a more extensive trial.

Dr. Hooper referred to the case of a boy who had a malignant form of myxo-sarcoma in the naso-pharyngeal space, which had been removed with both the hot and the cold snare, but which had recurred repeatedly, notwithstanding the attempts to keep it down by all known measures excepting electrolysis.

Dr. Cohen further said that he thought the great advantage of the treatment by electrolysis was the fact that an open wound was avoided, and consequently there was asepsis, and in addition thereto absorption of the whole tumor was brought about; therefore the electrolytic was far preferable to the galvano-cautery method of treatment.

Dr. Lincoln replied to Dr. Cohen that the reason why he used but one needle after the first treatment was that the tumor had shriveled considerably, and he thought the influence would extend sufficiently far from the one point. He was in grave doubts as to how much of the result from this treatment should be attributed to electrolysis and how much to cauterization. It was on the border between cauterization and electrolysis. The chemical action diminished rapidly as we receded from the needle. A slight groove was left after the disappearance of the tumor, showing that there seemed to have been complete absorption of it. The influence of the current in this treatment was far-reaching, and was not limited to the tissues with which the wire or electrode came immediately in contact. It extended to the nerves and blood-vessels, producing obliteration far beyond the point of contact.

Stenosis of the Larynx treated by Divulsion and Systematic Dilatation.—Dr. M. J. Asch, of New York, related the history of a case (see page 460).

Dr. J. Solis-Cohen, of Philadelphia: My experience in the treatment of these stenoses has not been very extensive. The first case I reported occurred twenty years ago—that of a patient in whom I removed a morbid growth from the interior of the larynx by thyreotomy, having first used the galvano-cautery. This was probably the first time the galvano-cautery was used in this country. I had tried to remove the growth by the forceps, etc., and then made use of a galvano-cautery specially prepared. The patient experienced so little pain by this method that he would accept no other treatment. The growth was examined in different cities, and was pronounced to be epithelioma. But this was a mistake, for the man is still living. But because of that diagnosis I stopped my other treatment, separated the thyreoid cartilage, and removed the tumor with most of the vocal band to which it was attached. Preliminary tracheotomy had been performed ten days before. After the parts had healed there was adhesion of the sound vocal band to the tissues on the opposite side. I then devised an instrument very much like the more recent one of Whistler's, modeled upon the urethrotome, having a tapering point, and with it divided the web, and afterward used the galvano-cautery. I have used that instrument since, but I have never had the courage to attempt dilatation without preliminary tracheotomy. I know it has been done in several cases, and also that immediate tracheotomy has become necessary. I think it is better to perform tracheotomy first so as to have nothing interfere with the breathing of the patient, and then proceed in the most active way of treating it. Under antiseptic surgery the tracheal wound heals up in a very short time, with trifling risk to the patient. The experience which I have had with the Schrötter dilators has been that after a little while the parts contract again, and, unless the patient can be retained under almost continuous observation for many months, the results are not apt to be permanent. One reason why I have not treated many patients with stenosis is, not so much that they have not presented themselves, but that I have impressed them with the fact that they must put themselves under treatment six months, with a prospect of extending it to eighteen months, before they could be promised much permanent relief.

Dr. F. I. Knight: This method of treatment has been very slowly popularized, in this country at any rate. I know of very few cases in which dilatation of strictures has been attempted, probably for the reason that everybody fears subsequent contraction and prolonged disagreeable treatment. I would particularly object to the name which has got into literature—chorditis inferior hypertrophica. There is no chorditis and there is no hypertrophy. It is a subglottic laryngitis, sometimes a perichondritis of the cricoid. I think it would be better to call it simply subglottic laryngitis.

Dr. E. C. Morgan, of Washington: I have recently treated an instructive case of laryngeal stenosis. During a period of eight or more months I was enabled to control the advances of the disease by the administration of potassium iodide internally and by intra-laryngeal applications of iodo-glycerin. The disease, nevertheless, on several occasions advanced so far and the dyspnœa became so urgent, in spite of the medical treatment and the use of dilators, that tracheotomy was advised, to be followed by systematic dilatation. The patient, although fully warned of his peril, postponed the operation from week to week, continuing to have suffocative spells nightly, to one of which he finally succumbed. I think that, if a preliminary tracheotomy had been allowed and subsequent dilatation had been practiced, the patient, who was of good physique, would have been living to-day.

Dr. D. B. Delavan, of New York: The treatment of chronic cases of stenosis is likely to undergo a radical change by the introduction of O'Dwyer's method of intubation. I think that this measure has a most brilliant future before it. It seems hardly necessary for me to give the reasons for this opinion. The tube can be worn for any length of time, respiration goes on meanwhile, and dilatation is kept up for a considerable interval. I know that Dr. O'Dwyer has had some experience in this direction, but, on account of his modesty and the fact that a description of the tube for adults has not yet been published, we have heard little about it. It seems to me this is the coming method for the treatment of these cases, either with previous forced dilatation or incision or without.

Dr. Asch: With regard to Dr. Solis-Cohen having found this method unsatisfactory in most cases, and advising tracheotomy, I would say that, to me, the beauty of this operation is that in employing it we avoid tracheotomy. In this case it certainly did seem as if tracheotomy would be necessary, but most patients have such a horror of any bloody operation that they would much rather undergo divulsion, even if it is more troublesome. I told this patient, as Dr. Solis-Cohen tells his patients, that the treatment would take a long while, and it did take from May of one year until February of the next. In a case of syphilitic stenosis of the larynx in which I attempted this method, but without success, because the man would not remain long enough in the city, the relief was instantaneous; he would, in fact, insert the tube, such was the relief he experienced, and I believe he would have tried it alone had I not feared he might set up acute inflammation. With regard to the name referred to by Dr. Knight, I simply quoted from another writer. I think the proper name for it is subglottic inflammation, or subchordal hypertrophic laryngitis. Regarding O'Dwyer's tubes, they seemed to be indicated in this case, and I tried them, but the patient for some reason was not able to tolerate them. The tube was coughed out with violent spasm, and I gave it up after making two or three attempts. The objection to the method I should suppose would be the difficulty of swallowing.

Book Notices.

Vaso-renal Change versus Bright's Disease. By J. Milner Fothergill, M. D., Edin., Physician to the City of London Hospital for Diseases of the Chest (Victoria Park), etc. New York: G. P. Putnam's Sons; London: Baillière, Tindall, & Cox, 1887. Pp. xii–218. [Price, $2.50.]

This book is written in the usual easy style of Dr. Fothergill, and, as might be expected, is rather agreeable reading. It can hardly be called a contribution to scientific medicine any more than much else that has emanated from the same source. It is full of trite and apt allusions to symptoms and signs of gout and nephritis, and contains many interesting historical data and many quotations from the writings of able contemporaneous writers; but it can not be said to contain anything new, either of fact or of surmise, that is valuable. Books of this description, written in popular style, acquire a position with medical men which is creditable neither to the writer nor to the reader. It is partly because we are in a perpetual hurry, and are therefore pleased to find positive views expressed in a concise way, and partly because we are not well enough educated in scientific medicine to recognize the difference between the work of the earnest and deep thinker and that of the dilettante, when the latter is really clever. A certain pleasing cleverness is visible from the beginning to the end of this book, but it can lay claim to nothing more than this. It adds nothing to our understanding of nephritis to say that the liver forms uric acid because it reverts to a former and lower stage of functional power; and to divide types of men into Arabic and Norse without the slightest ethnological warrant, but merely on fancied external resemblance, is neither scientific nor useful. The conclusions of the writer, like his Latin, are not always sound. "Nos mutantur," while a striking inaccuracy, is really no worse than much else which is perhaps less likely to catch the eye.

This writer, we thought, took leave of the audience when the curtain fell upon his recent production of some four years ago; at all events, he said so. We can not feel that he had any warrant for again appearing before the footlights.

Nobody doubts that vascular changes take place in Bright's disease, and nobody thinks that it is a good plan to name a disease after the man who first describes it; but it is certainly better to retain a name which is already universally associated with a certain nexus of lesions and symptoms until another is offered which will be sure to cover the entire field. "Vaso-renal" may very well be shown in the near future to apply to only a small part of the essential lesions and symptoms of Bright's disease; and yet we are asked to adopt it at once and forget the other.

The reviewer has usually felt it incumbent upon himself to give some idea of the contents of a book in writing his opinions of it. He has rarely done otherwise, but on this occasion he feels that exception must be made in deference to the space at his command. Nothing contained in the book needs to be written in these pages.

That it will make an impression on the lay mind from the semi-scientific style in which it is written there can be no doubt; and that the same cause may enable it to pass for wisdom in some other quarters is unfortunately equally probable.

Practical Urine Testing: A Guide to Office and Bedside Urine Analysis, for Physicians and Students. By Charles Godwin Jennings, M. D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. Detroit: D. O. Haynes and Company, 1887. Pp. vi–9 to 124.

This is a useful little book for those who have not the time nor the inclination to consult larger works on the subject. Though in a very much condensed way, all the more recent methods of determining the pathological states of the urine are plainly stated. We can heartily recommend the book for the purpose announced on its title-page.

What to do in Cases of Poisoning. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics in the Westminster Hospital, etc., London. First American from the Fifth English Edition. Edited by Frank Woodbury, M. D., Fellow of the College of Physicians of Philadelphia, etc. Philadelphia: The "Medical Register" Company, 1887. Pp. 158.

This is a little brochure that should be in the hands of every practitioner, whether practicing in the city or in the country. The arrangement is excellent, the symptoms of intoxication by the various drugs and poisons are well stated, and the instructions what to do are to the point and concisely and clearly given. Everything in connection with the emergencies that may arise in cases of poisoning is touched upon, and the author goes so far as to tell us what the fee should be in such cases. Had he gone a step further, and told us how always to collect the fees, he would have earned for himself the gratitude of a much-abused profession. There is a touch of quaint humor in the preface, where it is stated that the author disclaims all responsibility for the work having been so well received that a fifth edition was called for.

BOOKS AND PAMPHLETS RECEIVED.

Manual of Clinical Diagnosis. By Dr. Otto Seifert, Privatdocent in Würzburg, and Dr. Friedrich Müller, Assistent der 11. med. Klinik in Berlin. Third Edition, revised and corrected by Dr. Friedrich Müller. Translated, with the permission of the Authors, by William Buckingham Canfield, A. M., M. D. (Berlin), Fellow of the American Academy of Medicine; Member of the Medical and Chirurgical Faculty of Maryland, etc. With Sixty Illustrations. New York and London: G. P. Putnam's Sons, 1887. Pp. xi–173.

Biology of Tumors. A Lecture delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M. D., Ph. D., Milwaukee, Wis.

Differential Diagnosis: A Manual of the Comparative Semeiology of the more Important Diseases. By F. de Havilland Hall, M. D., Assistant Physician to the Westminster Hospital, London. Third American Edition, thoroughly revised and greatly enlarged. Edited by Frank Woodbury, M. D., Professor of Therapeutics and Materia Medica and of Clinical Medicine in the Medico-chirurgical College of Philadelphia, etc. Philadelphia: D. G. Brinton, 1887. Pp. xi–17 to 255.

New Inventions, etc.

A SIMPLE DEVICE FOR OPERATING-TABLE DRAINAGE AND THE SURGEON'S PROTECTION.

By T. H. Myers, M. D.

A good many of the New York surgeons wear long rubber aprons reaching to within a few inches of the floor to protect themselves from the blood and the fluids used for irrigation, while some even wear rubbers also in order to keep their feet dry.

To avoid the trouble and discomfort of this I have had a rectangular frame made of three-eighth-inch metal rod, ten inches longer and three inches broader than the *width* of the table.

The two shorter ends, with two inches of the side-bars adjoining, are bent up now at about 75°. The frame is laid across the table under the cushions in such a manner that the projecting ends will be above the level of the cushions.

Ordinary rubber sheeting is pinned to these ends and carried in the shape of a funnel under the table into a pail.

If no cushions are used on the table in question, or if the frame is placed on instead of under the cushions, the rods should be flattened considerably, thus allowing the patient to lie on them without discomfort; and in this case the side-bars need not be bent up so much.

According as you place the frame with its short or long diameter across the table, the distance between the rubber sheeting and the edge of the table may be made to vary from one to six inches.

The frame is inexpensive, is not in the way, can be easily shifted to any part of the table, and is efficient, or it would not have been retained two years at St. Luke's Hospital as it has been.

12 West Fifty-third Street.

Miscellany.

The Gynæcological and Obstetrical Society of Baltimore has recently elected officers as follows: President, Dr. H. P. C. Wilson; vice-presidents, Dr. F. E. Chatard, Jr., and Dr. John Morris; secretary, Dr. C. O'Donovan, Jr.; treasurer, Dr. Robert T. Wilson.

The Hartford, Conn., County Medical Association.—The following was announced as the programme for the autumn meeting, which was held at the Hartford Hospital on Wednesday, the 19th inst.: "The International Medical Congress," by Dr. E. P. Swasey; "Malignant Pustule," by Dr. E. F. Parsons, the discussion to be opened by Dr. G. W. Avery; "Treatment of Urethral Stricture by Electrolysis," by Dr. O. C. Smith, the discussion to be opened by Dr. M. Storrs; "Antifebrine," by Dr. F. T. Simpson, the discussion to be opened by Dr. A. E. Abrams; "Emmenagogues," by Dr. G. C. Segur, the discussion to be opened by Dr. P. H. Ingalls.

The American Public Health Association.—The fifteenth annual meeting will be held in Memphis, Tenn., on Tuesday, Wednesday, Thursday, and Friday, November 8, 9, 10, and 11, 1887. The following topics have been selected by the Executive Committee for consideration: 1, "The Pollution of Water-Supplies"; 2, "The Disposal of Refuse Matter of Cities"; 3, "The Disposal of Refuse Matter of Villages, Summer Resorts, and Isolated Tenements"; 4, "Animal Diseases Dangerous to Man." It is announced that this selection does not preclude the presentation of papers upon other subjects, and that the secretary has already been notified that papers upon other interesting topics will be presented.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality," for the month of September, that the total number of deaths reported during the month was 427, including 9 from cholera infantum, 5 from cerebro-spinal meningitis, 17 from croup and diphtheria, 1 from erysipelas, 9 from typhoid fever, 1 from remittent fever, 1 from intermittent fever, 1 from measles, 1 from whooping-cough, 2 from pyæmia, 2 from scarlet fever, 3 from septicæmia, and 1 from small-pox.

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, Tuesday evening, October 25th, Dr. O. B. Douglas will read a paper on "A Novel Operation for correcting Deflections of the Septum Narium where there is a Redundancy of Tissue."

At the next meeting of the Section in Obstetrics and Diseases of Women and Children, Thursday evening, October 27th, Dr. J. Lewis Smith will present the subject of "Asphyxia Neonatorum," and Dr. George T. Jackson that of "Impetigo Contagiosa."

At the next meeting of the Section in Materia Medica and Therapeutics, Friday evening, October 28th, Dr. Andrew H. Smith will demonstrate the use of Henocque's hæmato-spectroscope, and Dr. Edward L. Keyes that of Hayem and Nachet's *hématimètre*, with remarks on its employment in the treatment of syphilis.

The Mutual Relations of Physician and Pharmacist.—The "Pharmaceutical Era," of Detroit, offers a prize of $50 for the best essay on this subject, under the following conditions: 1. Any one interested in the subject may compete. 2. The essay must not exceed 2,000 words in length and must be received previous to January 1, 1888. 3. The MSS. must be free from the author's name, address, or other marks of identification. 4. The author's name and address must be inclosed with the manuscript on a separate paper. 5. All the essays submitted in competition for the prize are to be the property of the "Pharmaceutical Era," to be published or not, at the discretion of the editor, but names of authors will be suppressed if requested. 6. A committee consisting of five representative men chosen from the medical and pharmaceutical professions, to whom the essays shall be submitted anonymously, shall award the prize, and the names of the committee will be announced with their decision. Address D. O. Haynes & Co., Box 583, Detroit, Mich.

A Centenarian Physician.—Dr. Neklewitsch, of Loske in Poland, has lately died at the age of one hundred and nine years, having a quarter of an hour before his death seen and prescribed for a patient. Sixteen years ago he had a paralytic stroke, affecting both his feet, so that he has since that time been obliged to confine his professional advice to the consulting-room.—*Lancet.*

How Scarlet Fever comes to Michigan.—We have received the following circular:

"The Michigan State Board of Health has received information from Dr. Sifton, health officer of Sutton's Bay township, which illustrates in a striking way how this country gets contagious diseases from the old countries. On October 2, 1887, a family arrived in Sutton's Bay, Leelanaw county, direct from Norway. The family came over in the steamship Ohio, of the Inman line, reaching New York September 30th. Scarlet fever was on board the steamer during the passage, one child dying before the landing, and 'several more were sick in the same way.' One child of this family was taken sick with scarlet fever the day after reaching New York. The family, however, proceeded over the New York Central and the Lake Shore and Michigan Southern to Michigan; then over the Detroit, Grand Haven, and Milwaukee, and the Grand Rapids and Indiana to Traverse City; then to Sutton's Bay. Another child of the family has since come down with the disease. The family had a certificate, signed by the surgeon of the steamer, that they had been protected by vaccination against small-pox; so they passed without detention the quarantine authorities at the port of New York after they had been exposed to a contagious disease which causes more deaths by far in this country than small-pox causes."

Gleditschine, the New Local Anæsthetic.—Messrs. Parke, Davis, & Co. announce that they are thoroughly investigating at their laboratory the properties of the alkaloid derived from *Gleditschia triacanthos*, or honey-locust, which, under the name of "Stenocarpine," has been alleged to possess greater anæsthetic power than cocaine, and mydriatic effects exceeding those of homatropine. Anticipating that the fluid extract of *Gleditschia triacanthos*, in view of the anæsthetic action of its alkaloid, may, like the source of cocaine (*Coca erythroxylon*), possess valuable medicinal properties, they are prepared to supply physicians with samples of the fluid extract for investigation and clinical trial, and with a working bulletin containing all the facts regarding this drug and its application, collated from the reports from their scientific department and those that have appeared in current medical literature. They hope to be able also in a short time to supply the alkaloid.

The Use of Hot Water in Surgery.—In Dr. Varick's article with this title, published in our last issue, an error crept into one of the tables. In the first table on page 434, the mortality percentage given opposite Dr. Ashhurst's name should have been 28·0, instead of 0·28.

THERAPEUTICAL NOTES.

The Treatment of Asthma.—At a recent meeting of the Berlin Medical Society ("Berlin. klin. Woch."; "Ctrlbl. f. klin. Med."), Lazarus read a paper in which, among prophylactic measures, he laid stress on the cure of stenotic affections of the upper air-passages in children, such as enlargement of the tonsils, adenoid vegetations in the pharynx, and chronic nasal catarrh. For the treatment of the disease after it had become established, he recommended the simultaneous use of potassium iodide and chloral, not less than 15 grains of each, once or twice during an attack. He had also used cocaine and the induced current (according to Schäffer) with success. For sequelæ, such as emphysema, he recommended the pneumatic cabinet, and for chronic catarrh with profuse secretion, terpine hydrate. In the discussion, Patschkowsky reported good results from external applications of tincture of iodine, and Lublinski spoke favorably of pyridine, amyl nitrite, sodium nitrite, and nitroglycerin.

Creasote in the Treatment of Pulmonary Phthisis.—Fraentzel ("Dtsch. med. Woch."; "Gaz. hebdom. de méd. et de chir.") has used this remedy since 1878, chiefly in cases without fever, cough, or complications. The following formula was employed:

Creasote	13 parts;	
Tincture of gentian	30 "	
Brandy	250 "	
Sherry, enough to make	1,000 "	filtered.

A tablespoonful is given two or three times a day, in a glass of water, and at the same time two tablespoonfuls of cod-liver oil are given daily. The patients are kept, day and night, in freely ventilated rooms and are fed abundantly. Improvement is manifested by gain in weight, increase of the appetite, diminution of the cough, expectoration, and pain, a reduction of the area of dullness, and the disappearance of bronchial souffles. Out of four hundred patients treated by this method, a hundred and fifty have been permanently benefited.

A Tincture of Strophanthus.—The "Unofficial Formulary of the British Pharmaceutical Conference" ("Brit. and Colon. Druggist") gives the following formula: Pack 1 oz. of strophanthus seeds, reduced to No. 30 powder and dried at 110° F., in a percolator, and moisten with pure ether (sp. gr., 0·720). Macerate for twenty-four hours, then allow percolation to proceed, continuing the addition of ether until the liquid passes through colorless (about 8 or 10 fl. oz. suffice). Remove the marc from the percolator, and dry it, gradually heating it to 120° F. Powder it again, repack the percolator with it, and moisten with rectified spirit. Macerate for forty-eight hours, then pour on successive quantities of spirit, percolating slowly, until a pint of tincture is obtained. The dose is from 2 to 10 minims.

Phthalate of Morphine is highly recommended, as compared with other morphine salts, by Bombelon ("Pharm. Ztg."; "Brit. and Colon. Druggist"). It dissolves in five parts of water, and does not cause irritation when injected subcutaneously. Care is necessary in the preparation, as it is not obtained by crystallization, but by partial evaporation and scaling.

Quinine Injections in Gonorrhœa.—Ledetsch ("Prag. med. Woch."; "Breslauer ärztl. Ztschr.") reports striking successes with quinine injections in the treatment of gonorrhœa, particularly in chronic cases. His formula is as follows:

Quinine bisulphate	1 part;
Glycerin	25 parts;
Distilled water	75 "

Three injections are given daily at first, then two, and finally only one.

Potassium Permanganate as a Preventive of Diphtheria.—Johannsen ("St. Petersburger med. Woch.") argues that the secretions of the mouth and nose accumulate during the night and undergo more or less decomposition, thus favoring the action of the diphtheria germ. He therefore advises washing out the mouth and the nasal passages of children every night with a clear-red solution of potassium permanganate. He thinks his observation warrants the statement that the practice is efficient.

Poisoning with Iodol.—Pallin ("Hygiea"; "Ctrlbl. f. Chir.") gives an account of a case of necrosis of the clavicle in which an operation was performed for the removal of a sequestrum and 75 grains of iodol were applied to the wound. During the evening of the same day the patient became delirious, and on the following day his temperature was 102·2° F., his pulse was 136, small, and irregular, and he vomited and was apathetic. The urine showed traces of albumin and a weak iodine reaction. Although the dressing was changed at once, all the iodol being washed out of the wound and bismuth applied in its place, the symptoms of poisoning lasted four days longer, and for a fortnight iodine was to be recognized in the urine.

Coumarin as a Corrigent of Iodoform.—A. Langlebert ("Gaz. de gynécol.") recommends coumarin both as a deodorizer of iodoform and as an adjuvant to that drug as an antiseptic. About 1 part of coumarin should be used for every 5 parts of iodoform.

ANSWERS TO CORRESPONDENTS.

No. 61.—See the answer to No. 41, in our issue for September 17th.

No. 62.—In the County of Erie, midwives are subject to a special law passed two years ago, by which they are required to pass an examining board. We are not aware that there is any law in force in the other counties of the State bearing explicitly upon midwives, but our impression is that an unqualified midwife might be debarred from practice under the provisions of the general act regulating the practice of medicine in the State. We advise you to bring the matter before your county medical society, whose duty it will be to take legal advice, without expense to you.

No. 63.—Antifebrine is simply a fanciful name for acetanilide, and it ought not to come into use.

No. 64.—We learn that the book will be published in about two weeks.

No. 65.—We are decidedly of the opinion that the report is incorrect.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

AN ADDRESS

DELIVERED TO THE GRADUATING CLASS OF THE CHARITY HOSPITAL TRAINING SCHOOL FOR NURSES,

*October 12, 1887.**

By ROBERT W. TAYLOR, M. D.,
SURGEON TO THE HOSPITAL.

The managers of the Training School have requested me, as a member of the medical board of this hospital, to say a few appropriate words to you upon this the day of your graduation. Before entering upon the train of thought which the occasion suggests to my mind, I am impelled to speak of the conditions under which you receive your diploma from this Training School. For many reasons you should be thankful for your good fortune, which has been greater than that of any of your predecessors. You entered the school when it was no longer in its infancy, but in its full maturity, its various systems perfected, its routines of teaching greatly increased and systematized, and its whole *régime* brought to a status which, as an institute of learning, study, and experience in the care of the sick, makes it a power in the land. Under the able and efficient guidance of the Board of Managers of this school, and under the fostering care and unremitting energy of its chairman, with the hearty co-operation of the superintendent, all this good work has been accomplished. Such is the rigid scrutiny which is now exercised in accepting a nurse that those chosen may well be thankful and proud. I think I may say, without fear of contradiction, that in no other school in this country are nurses so thoroughly taught, not only in general medicine and surgery, but also in the Maternity Hospital, in the uterine wards, in the eye, ear, and throat services, and in the care of children. Such a curriculum commands all praise, and those who have pursued it successfully are certainly to be envied.

And, fortunate as you are in this thoroughness of your course of training, you have reason to be doubly thankful for the watchful care which has been exercised in the interest of your health, comfort, recreation, and general well-being. Among the very many wise and beneficent acts of the honorable Board of Commissioners the one which gives the nurses a separate spacious home appeals to the heart in enthusiasm and to the head in its kindliness and wisdom. There you have had well-furnished, well-ventilated, and ample apartments. There you have had a bright, cheery home, which impresses one who enters it with a sense of refinement, happiness, and comfort. Then, as a relief to the arduousness of your duties, means of recreation have been provided in the cozy parlor, with its various interesting games and its library and musical instruments, while outside on the lawn you have been able to enjoy tennis, croquet, and other healthful exercises, and, last but not least, the opportunity for salt-water bathing and swimming has been provided for you. Providence has certainly smiled upon you, and, while your senses have been trained and your intellects expanded by the course of study, your bodily health and comfort have been carefully looked after.

Having now passed through the required period of training and study, and having acquitted yourselves worthily at the final examination, it remains for the officers of the school to present to you your diplomas, as signs and seals of your worthiness and fitness as nurses.

With your diplomas you enter upon a serious, perhaps the most serious, epoch in your life; from this time on you must fight the battle of life alone and unaided, and you will stand or fall according as you prove yourselves equal to the occasion. While students you have been sheltered within the protective arms of this great institution; here you have been guarded by a jealous care and treated with kindly forbearance; here any errors which you may have made have been among friends, associates, and sympathizers; here you have those to whom you may go for advice and encouragement, and your duties are largely routine. Beyond these walls all this will be changed. You enter the household of the sick as a stranger ready to perform delicate and arduous duties. There you have to maintain your position and acquit yourself with credit and to the satisfaction of the sick persons and the relatives and friends, who may or may not be kindly and forbearing, and very often censorious, exacting, and even unreasonable, and who certainly will not overlook errors in acts or judgment, condone oversights, or extenuate breaches, however small, of deportment, speech, or manners. The duties, instead of being routine, will be varied, changing, and unexpected. In none of the walks of life do I know of a more delicate position, nor one which requires more prudence, self-balance, tact, common sense, foresight, and presence of mind than that of a nurse thus thrown upon her own resources.

The fortitude which has been shown by women in assuming such delicate and arduous duties, and the zeal and singleness of purpose which have characterized them in their performance, happily have had their due weight with the world, and the trained nurse is now generally received with confidence, respect, and honor. This feeling of confidence and appreciation, I am happy to say, is to-day deeply rooted in the minds of the people, and is rapidly extending to all communities. It is pleasant to contemplate the position she holds in the hearts of the people. Friends of patients are often heard to say with much confidence that, besides the experienced physician, they have a trained nurse, and their manner convinces you that they think all is well, and that all that can be will be done. I regret that I can not leave this general statement in an unqualified manner, and that I can not say that there are not those who do not entertain such gratifying views as to the value of the trained nurse. It will be for your benefit to know the adverse criticisms made upon your fellows, since they contain subjects for deep reflection on your part. The London "Lancet," whose great influence you all know, in an editorial on trained nurses thus speaks: "As we have more than once pointed out in these columns, there is a class of trained nurses which must be regarded as one specially developed or evolved by the practical ignorance of details in respect to the needs of the sick-chamber, who have obtained all the bedside knowledge they possess at hospitals, without being inducted personally to their work as attendants on private families. We hold, and do not hesitate to affirm, that attendance on the practice of a hospital is not in itself a sufficient preparation for the treatment of patients in their homes. What nurses are trained to do could be as well done by ordinary servants if the practitioner would and could give precise instructions as to details. As matters stand, the sick are often at the mercy of a class of women who have been taught a system not good in itself, and wholly unsuited to the need of the majority of patients, and who are puffed up with a little knowledge to an extent dangerous to those poor sick folk over whom they usurp and exercise an authority which is irrational and mischievous. They are happy who have wives, sisters, or even servants to tend them in their hour of helplessness, and who are not under the care of a nurse who stands between doctor and patient to the injury of both."

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* Published by request of the Board of Managers of the Training School.

Under the title "Post-graduation Hints to Nurses" we find an editorial in a recent number of the able and conservative "New York Medical Journal," which contains the following: "What the ordinary graduate of a nurse's training school most needs when she emerges from the hospital, and undertakes private nursing, is to have her technical training supplemented, and perhaps to some extent rectified, by sound advice on the ethical and prudential aspects of her calling. For lack of this, many a woman has made herself a nuisance in place of a treasure among those who have been unlucky enough to employ her. The time is rapidly approaching when these women of excellent attainments will be forced by competition either to train themselves anew, or give way to their better-advised rivals."

I am not of the belief that hospital training does not properly fit a young woman for private nursing, nor do I think that, as a rule, servants make good nurses, even when the physician has time to teach them, and further think that, in general, relatives and friends are not efficient in the sick-room for obvious reasons. The gravamen of the "Lancet's" remarks, however, is to the effect that nurses become puffed up with a little knowledge, and that they exert an irrational and mischievous authority over their patients. Those who have attentively read the remarks of the "Lancet" must draw the conclusion that they emanate from an experience other than happy with trained nurses, in which, undoubtedly, the latter acted foolishly, without thought and judgment. In the editorial in the "New York Medical Journal" the thoroughness of the hospital training is not called in question, but it is clearly shown that the student curriculum should be supplemented by sound advice on the ethical and prudential aspects of your calling. As I look back I can recall many nurses who have impressed me with their unfitness, and others again, I am happy to say, who have proved themselves to be born nurses. Let me briefly sketch some of the characteristics of nurses who have in my experience—and I am sure others have met with them—presented objectionable qualities.

First, the gossiping nurse. She is usually bright, alert, and prompt in her duties, but takes every chance to gossip with the patient, when strong enough, and with the members of the family, and, I am sorry to say, with the servants. In this way she gets many of the family secrets, sees many a skeleton in the closet, and in most instances comes to know by heart the whole genealogy of the family. With this choice budget she often comes in a confidential manner to the doctor or to acquaintances, and most undoubtedly retails it in the bosom of the next family in which she is engaged. It is needless to say that after a time her sphere of usefulness or uselessness is very limited.

Then there is the hyper-sympathetic nurse. In some the effusiveness is due to an emotional nature, in others it is assumed under the delusion that such a course will more thoroughly ingratiate her with the family. She applies the most endearing epithets to the sick person, and also to the female members of the family, particularly to old ladies. Any increase in the patient's suffering calls forth a flood of endearments, and in the event of a crisis in the case, all of the members of the family come in for a full share. She is always moved to pity, and with children her sympathy seemingly borders on grief. Such a nurse is usually not efficient, prompt, and reliable. Instead of being guided by common sense, she is controlled by her emotions.

Then we have what may be called the reminiscent nurse. Her failing is in being absorbed with a most exalted idea of and a great gratitude to the physician who recommended her. She is usually bright and in most respects efficient. But before she has been installed in her position twenty-four hours she will have told all about Mrs. Brown's last accouchement and what wonders the doctor accomplished. Then during the latter's visit to his patient she will see and suggest some point of resemblance in the symptoms or course to those of Mrs. Jones, whom she and he had previously cared for and who was miraculously saved; or, perhaps, with a tender cadence of the voice she will ask whether you have seen or heard lately of Mrs. Robinson's child who was once at death's door and saved as if by a miracle. And thus she goes on her way, repeating these lugubrious histories, to the annoyance of the family and to the disgust of the doctor.

The officious nurse is also not infrequently met with, and her objectionable qualities have their origin in a mistaken idea of performing her duties in a most thorough manner. She aims at a high mark and overreaches herself. She is always on the move, bustling, fussy, and so attentive to her patient that often she is importunate and even annoying; while to the doctor, whom she waylays and stops on every possible occasion, she makes suggestions, dilates on trivial matters, discusses in many words symptoms, signs, and treatment, till he wishes that she was far away. Such a nurse usually fritters her time away in trifles and does her duty in an unsatisfactory manner. She is soon dropped from the physician's list.

In marked contrast to the officious nurse is the diffident, timorous nurse. Such a nurse lacks self-confidence; she is timid in speech and action, and appears awkward and often not bright. She is usually willing and industrious, but her shortcomings of nature weigh her down and act as a bar to her success. Such a nurse should be treated by the physician with much consideration, should be aided by kindly words of advice, and stimulated by evidences of interest in order to help her to overcome her natural infirmity.

Finally, among the objectionable classes of nurses there is the self-opinionated nurse, or the one who thinks that she knows everything. It is this kind of a nurse which has called forth the strong language used in the London "Lancet," and who is to be found, I am glad to say, only infrequently on this side of the Atlantic. She is usually exacting, unsympathetic, even cold in her manner. She goes about her duties in a lofty, self-satisfied way, jarring to the feelings of the patient, relatives, and physician. She is intolerant of suggestions and perverse in her own course, and often implies or says that she knows more than the doctor. She does her duties in a routine manner, grudgingly adapts herself to new and varying requirements, and tries to give the impression that she is a superior being. Her austerity, the absence of any mildness in her disposition, and her obtrusive self-reliance, make her an object of dread, and through her the trained nurse's calling is brought into disrepute.

These examples which I have given you of the errors of nurses may serve as danger-signals, consequently they should be avoided by you, since they will inevitably impair if not destroy your usefulness. Think well, therefore, of the lessons which these cases teach, and apply them to your conduct. With these drawbacks to your success in mind, what further must you do when you assume the duty of a private nurse? After your installment don't try to revolutionize the household, and don't indulge in violent innovations. If changes are necessary, lead up to them gently, in a suggestive rather than in a firm manner. Thus, in performing your duties in a correct and unostentatious way, you will win the confidence and esteem of the patient and relatives, and then your course is clear.

Be observant of ways of the household and endeavor to create as little friction as possible. Bring your tact, prudence, and common sense to guide you in your relations with the patient, the relatives, and the servants. Be mild and gentle, not brusque in your ministrations, and constantly cultivate a delicate touch. While in their distress and suffering you should be tender and sympathetic, don't go beyond the bounds into the maudlin. Try to be firm, kind, patient, and good-tempered under all circumstances, even when your patient is petulant or unreasonable. Maintain your position always by firmness mixed with compassion and kindliness. Be orderly, thorough, systematic, and prompt in the discharge of your duties. Never procrastinate, for the habit increases as you grow older. Lend your best efforts to make the sick-room cheery and attractive, and hide from view all evidences of illness, such as medicines, instruments, etc. Be careful that the ventilation is perfect and unattended with injury to the patient. Study to perform the various duties upon the person of the patient in the most delicate and least annoying manner, and administer the medicines in a way as pleasant and as little repugnant as possible. Don't forget the priceless lessons in antisepsis which you have learned in your maternity service; expand and elaborate upon them as your cases require, and you will confer a great boon upon the patient, the relatives, and the physician. Attend to no cases in a routine manner; cultivate your minds and senses by study, observation, and reading. Should emergencies arise, keep cool, act promptly according to the dictates of common sense and education, and wait till help comes. Cultivate a serious but not dismal demeanor; never be exuberant or flippant, but rather bright and hopeful, and carefully avoid familiarity. Never, by word, deed, insinuation, or implication, be disloyal to the attending physician. Assiduous as you should be in your professional work, you should remember that you owe solemn duties to yourselves. Do not, in your zeal and ambition, attempt to do more than is proper; be careful of your health and husband your strength. Work during your allotted hours, and then rest, and you will do more in the long run than you would if you allowed your sympathies to sway you and undertook to do extra duty. Preserve in future the neatness and simplicity of dress which are peculiar to the hospital; it is pleasing to the eye and cheering to the heart. Take every opportunity for fresh air and exercise, and be regular at your hours for meals. By so doing you will be better fitted to pass through the ordeals which will often be your lot.

In this hospital you have ministered to the wants and sufferings of the poor and the lowly; you graduate from a school of mental and moral training; your surroundings have been those which "tend to elevate the thoughts, temper the feelings, and touch the heart."

Go forth, then, and prove yourselves worthy of your noble calling. Remember that you are the handmaidens of charity and mercy, which "droppeth, as the gentle rain from heaven, upon the place beneath. It is twice blessed. It blesseth him that gives and him that takes."

Original Communications.

GASTROTOMY
FOR THE DIGITAL EXPLORATION OF THE ŒSOPHAGUS AND REMOVAL OF A FOREIGN BODY.

RECOVERY.[*]

By WILLIAM T. BULL, M. D.,

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The introduction of the finger into the pyloric orifice of the stomach for exploration and the dilatation of that orifice when constricted has been successful in the hands of Loreta, who first attempted it, through the means of a small incision in the stomach.

The cardiac orifice and the œsophagus above it have also been found accessible to instruments after a gastric fistula has been established; and dilating instruments have been introduced in that way from below upward in the course of treatment of strictures. But in only one instance thus far recorded has the effort been made to explore the œsophagus through the stomach. That was in a successful case reported by Richardson, of Boston.* In a man who had a plate with false teeth impacted in the lower end of the œsophagus for ten months, he opened the stomach by a small incision, and attempted to reach the body in the œsophagus with the finger. This being unsuccessful, he enlarged the incision (five inches) to admit the hand and forearm. The plate was detached by introducing two fingers into the œsophagus and drawing it first into and then out of the stomach. A prompt recovery followed this operation.

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[*] Read at a meeting of the New York Surgical Society, held October 12, 1887.

The feasibility of this procedure was demonstrated afterward by Dr. Richardson in a series of measurements and experiments on the cadaver. In twelve subjects he found the distance from the center of an incision starting from the outer edge of the rectus muscle, and running five inches parallel to the costal cartilages and one inch below them, to the œsophageal opening in the diaphragm, to be 7·55 inches. When the stomach was drawn as far as possible out of the abdominal wound, the hand and forearm were inserted into its cavity through an incision five inches in length, and the index and middle fingers could be passed two inches and a half into the œsophagus. He found the distance from the teeth to the œsophageal opening in the average subject to be fifteen inches, and concluded that a body whose position when arrested in the œsophagus is not less than thirteen inches, could be reached from below by the hand introduced as described. Cheever's statement that through the wound of œsophagotomy the finger could reach as low as the level of the arch of the aorta was confirmed, and in four cadavers he was able, by passing one index finger through an œsophagotomy wound downward and the other upward from the stomach, to bring the two fingers into contact. Fortified by these observations, and the success of the case referred to, he urges with propriety the resort to gastrotomy for bodies impacted at a distance of no less than thirteen inches from the teeth, after other means have failed.

These valuable observations of Richardson's were fresh in my mind when a boy presented himself with a peach-stone impacted in his œsophagus thirteen inches from the teeth. During forty-eight hours I made two efforts to dislodge it with instruments through the mouth. I discarded œsophagotomy. The situation of the body, allowing six or seven inches for the distance from the teeth to the œsophagotomy wound, would leave six or seven inches of œsophagus to manipulate through. One could accomplish no more than through the mouth. Deciding on gastrotomy, I considered the best method of performing this with least injury to the parts, and was led to these reflections:

1. That large incisions in the abdominal wall and stomach, together with the manipulation of that organ outside of the abdominal cavity, and the introduction of the hand into it, ought to be avoided if possible. They would be very dangerous in so young a subject.

2. That the exploration could be effected by the finger alone, introduced through a small wound, if the anterior wall of the stomach were invaginated, so as to fold itself about and behind the finger entering the œsophagus.

3. That the nearness of the œsophageal opening in the diaphragm to the vertebral column would make that structure an easy guide to the orifice, and, moreover, an incision in the median line would be nearer to that orifice than one parallel to the border of the ribs. This incision was in general preferable, and the hand or finger manipulating through it would be less incumbered by the overhanging ribs.

4. That the nature of the body, it being smooth and free from sharp corners, made it probable that it would be safe to push it up from below, or to draw it up, in case it was not easily dislodged downward into the stomach.

L. Coles, colored, sixteen years of age and in good general health, was admitted to the New York Hospital, August 25, 1887. His mother stated that he had swallowed a peach-stone on the 20th of August, five days before admission. On drinking immediately afterward, the water was regurgitated, and from that moment he had been unable to retain any nourishment. He had lost much flesh and was weak, and complained of thirst and occasional nausea, but vomited only when he attempted to swallow, and had no pain. A physician had passed a probang, but could not reach the stomach. The bowels had moved once in five days, and urine been passed as usual.

I saw the boy immediately after his admission, and was struck by his anxious expression and feeble appearance. Though of spare habit, he was decidedly emaciated. He had no fever, and the pulse was a little quicker than normal and of small volume. He was given a glass of water, swallowed it, and immediately rejected it. There was no swelling of the neck to be seen or felt. An œsophageal bougie with ivory bulb at end was passed to a distance of thirteen inches from the incisor teeth, where it struck against a hard body. The sound made by a light impact could not be distinctly heard, but the sensation communicated to the finger was unmistakable. The examination was well borne by the patient, and I tried at once to dislodge the body with coin-catchers of different sizes. These only grazed its surface. Attempts to get beyond it with fine gum elastic and whalebone bougies were equally unsuccessful, and after ten minutes' gentle manipulation the boy was put in bed. I ordered rectal enemata every six hours of peptonized milk, ℥ iij, and whisky, ℥ j; and bits of ice by mouth.

August 26th.—The rectal injections are well borne and are continued. The manipulations of yesterday were repeated for fifteen minutes, but without result. An attempt to grasp the body with an œsophageal forceps failed. I thought it dangerous to make further efforts, and advised gastrotomy, which the parents consented to.

29th.—The operation was done with the assistance of the house staff and in the presence of Professor William H. Carmalt, of New Haven, and several physicians. It was just one week since the body had been impacted.

After the ether narcosis was complete I passed an œsophageal bougie with an ivory-bulb tip and ascertained that the body was still in place, thirteen inches from the teeth. One or two gentle taps were made upon it with the bulb, in the hope that with the relaxation caused by the ether it might drop into the stomach. This and a further cautious attempt to get beyond it with the coin-catcher and a slender bougie were unsuccessful. The abdominal cavity was opened by an incision three inches in length extending from the level of the ninth costal cartilage to two inches above the umbilicus. The upper limit was determined by noting the point where the percussion dullness of the liver disappeared. This exposed a part of the anterior wall of the stomach and its greater curvature about two inches and a half from the pylorus, while the lower edge of the left lobe of the liver was seen in the upper angle. The index finger passed over the under surface of the diaphragm could feel the motions of the heart, but detected no foreign body at the situation of the œsophageal opening. The stomach was empty. The pylorus was identified, and a part of the anterior wall selected for incision. This was about three inches distant from the pylorus and midway from the greater and lesser curvatures, as estimated by the fact that the superficial vessels were least conspicuous there. I drew this part out of the abdominal wound and put two loops of silk through it, two inches apart in a vertical line, and made an incision one inch and a quarter long between them. This permitted the escape of a little gas and a few drops of brownish fluid. I fixed two more loops of silk into the edges of this wound in order to control it thoroughly, and, protecting the edges of the abdominal incision with flat sponges, passed the index finger directly backward till the vertebral column was felt, then upward till it entered the œsophagus. The finger stopped up the wound so that nothing could escape had there been fluid present, and this encouraged me to depress the abdominal wall and to crowd the finger as far up as possible. In this manipulation the anterior wall with the loops of silk followed the finger into the cavity and was folded on itself like the invaginated scrotum in examination of the inguinal canal. The body could not be felt till a finger was passed and pressed gently on it from above. Then one of its flattened surfaces rested against the tip of the finger with a "collar" of mucous membrane below it. I made an effort to tip it with the finger-nail so that its edge would present downward. I immediately passed upon the finger a curved œsophageal forceps till it reached the body, and then drew out, by means of the loops of silk, the anterior wall, the finger following it and still blocking the opening. One or two efforts to grasp the stone with this and a straight forceps introduced in the same way, although it could be plainly felt with the tip of the blades, were unsuccessful. Therefore I determined to push it up from below. Reintroducing the finger, a slender bougie was passed over it and projected from the mouth. A sponge half an inch in diameter and one inch and a half long was tied to the lower extremity with strong silk, one end of which was left long. The sponge was pulled through, meeting with slight resistance, but the foreign body, while apparently dislodged, was not "brought up." A larger sponge was then tied to the long end of the silk and drawn through. This brought the stone into the mouth, where the finger met and extracted it. In these last manipulations the anterior wall was held by the loops of silk two inches above the level of the abdominal wall, while the loops in its edges, manipulated by my assistants, Dr. Lines and Dr. Adams, of the house staff, were useful in securing easy access to the interior of the stomach. A few drops of turbid brown fluid escaped from time to time, but were absorbed by two sponges held on either side of the stomach wound. No blood was seen in the mucus surrounding the stone or the sponge, and I concluded that no injury had been done to the œsophageal mucous membrane. The gastric mucous membrane was sutured with eight catgut sutures, the peritoneal coat with ten or twelve Lembert sutures of fine silk (carbolized). The punctures above and below the incision occupied by the loops of silk were each closed with a single Lembert suture, for I was in doubt whether they extended through all the coats or not. The abdominal incision was closed with a continuous peritoneal suture of catgut, and interrupted silk sutures through the other layers. The duration of the operation was one hour and a quarter, and at its close the general condition was satisfactory. The dressing was of bichloride gauze covered with absorbent cotton and a roller bandage.

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* "Boston Med. and Surg. Journal," December 16, 1886.

The boy made a rapid recovery without accidents. The temperature was never above 99° F., and there was no pain, nausea, or vomiting. He was quite weak, with pulse of 110 to 120, of small volume, on the third, fourth, and fifth day, but gained rapidly after the seventh day, when he was allowed to eat anything he wished. The rectal enemata (peptonized milk ℥ iij, brandy ʒ ss.) were discontinued on the fifth day. For the first twenty-four hours he received nothing by the mouth, during the second day brandy and water and beef-tea at frequent intervals, on the third day ice-cream and milk and tea, then soft-boiled eggs and toast. His appetite was quite poor, and he had no desire for food till watermelon was offered him in addition to his other diet on the fifth day. The wound healed entirely by primary union without any pus, and there was no decided tenderness in its vicinity. He sat up on the tenth day, and walked about fully as well as ever a week later.

I submit the patient for your inspection, and have traced one or two lines on his dark skin to show (Fig. 1) the relative situation of the foreign body (opposite the level of the upper border of the fifth rib), and of the incision in the linea alba. At the time of operation the abdominal wall, as a result of his week's starvation, was thinner and softer than now, and could be more easily depressed so as to lessen the distance in a straight line from the abdominal incision to the œsophageal opening at the cardiac orifice. This condition and the moderate proportions of the boy permitted the finger to enter that orifice and reach the body *without introducing the hand into the cavity of the abdomen.* In fact, *at no time was more than one finger in the abdomen.* A diagram (Fig. 2) indicates clearly the nature of this manipulation. The loops of silk by which the anterior wall of the stomach was drawn out of the cavity, and which held the edge of the stomach wound closely plugged by the finger, are not shown.

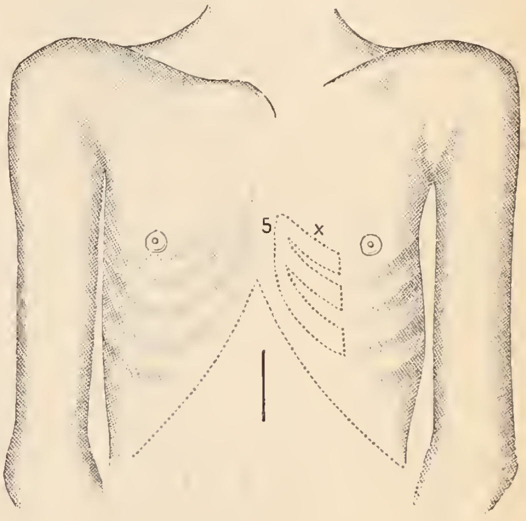

Fig. 1.

In the adult it would doubtless be necessary to introduce the hand into the abdominal cavity to carry before the finger, or to invaginate, the anterior wall of the stomach. This procedure is made clear by Fig. 3.

I likewise present the peach-stone and the sponge attached to the string which was drawn through the œsophagus. The stone is of average size and sharp at only one end, and measures one inch in its long and five eighths of an inch in its short diameter, and has a circumference of two inches and five eighths.

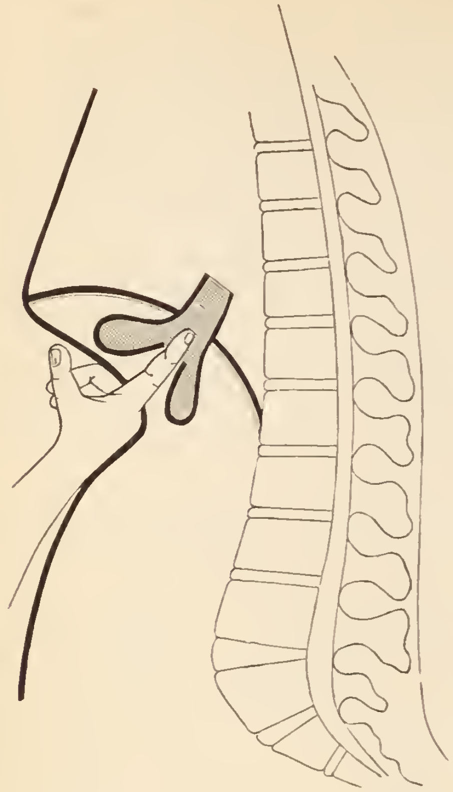

Fig. 2.

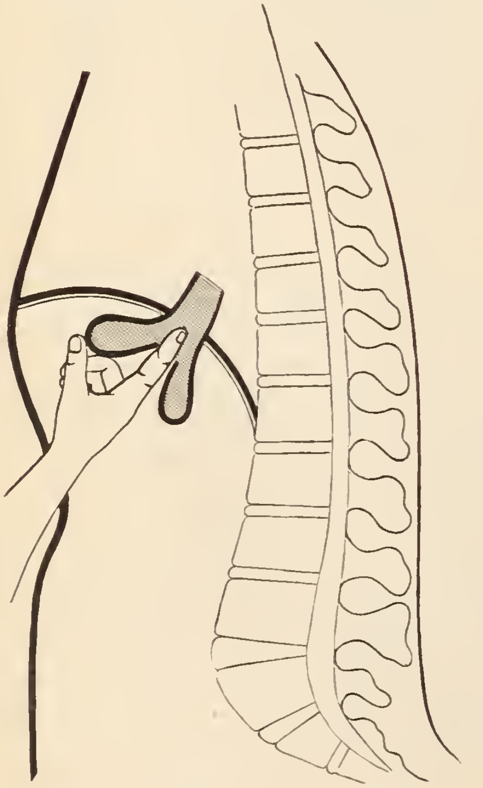

Fig. 3.

In connection with this case the following features seem to me worthy of attention: 1. The small wound in the stomach, one inch and a quarter, just sufficient to admit the index finger. 2. The invagination of the anterior wall of the stomach. 3. The use of the loops of thread, intrusted to assistants, by traction on which the edges of the wound in the stomach were kept close against the finger, so that it acted as a plug and prevented the escape of any fluid. 4. The moderate manipulation of the stomach itself; at no time was it drawn more than two inches beyond the abdominal wall. This was at the time instruments were introduced. As soon as they reached the cavity, the wall, with finger and instrument, was at once thrust upward, and the œsophageal orifice reached by following the vertebræ and middle line as a guide. The finger only traversed the cavity of the stomach; the instruments passed almost directly from the wound to the œsophagus, and did not wander about over the surface of the gastric mucous membrane.

Each of these features is in itself a small "point," but they make in combination an important part of that sure and delicate technique which is essential to success in operations on the abdominal organs. Furthermore, I think that the plan of not making any prolonged effort to draw the stone into the stomach was of great advantage. Aside from the fact that much time would have been spent, one would have directed one's efforts against the stone lodged in the part of the canal where it had rested for seven days, and where the mucous membrane might have been inflamed, softened, or ulcerated, and easily perforated. In drawing it from below upward, one had the advantage of a larger caliber, and a sound mucous membrane, which neither the smooth body nor the soft sponge was likely to injure.

I have always regarded Dr. Richardson's contribution as an invaluable addition to our store of knowledge, and hope this society may be of the opinion that, in following his example, I have helped to demonstrate that in gastrotomy we have an additional resource in the management of foreign bodies in the œsophagus. The comparative safety of the operation may be judged from tables of cases of gastrotomy for foreign bodies in the stomach recently reported by Bernays* and Richardson.† In twelve instances bodies have been removed from the stomach, which was uninjured and not adherent, and in two cases (including my own) from the œsophagus. All but two cases were successful. These figures are more favorable than the statistics of œsophagotomy reported to the society last year by Dr. Markoe ("Med. News," May 1, 1886). These show eighty-two cases, of which sixty-three recovered and nineteen died.

The marked difference in the death-rate suggests to my mind the advisability, in cases where one is in doubt of the ability to safely extract the body by œsophagotomy, of resorting promptly to opening the stomach. Such a doubt may arise from the difficulty in estimating the exact situation, from ignorance of the nature of the body, or from the circumstance that no instrument can be passed beyond it. It is certainly dangerous to use forceps which open in the œsophagus where bodies completely occlude its lumen, and those which are flat and lie crosswise can only be caught by specially contrived instruments, or withdrawn by getting such an angular instrument as the coin-catcher beyond them. Pressure from below with a large bougie, or traction toward the mouth, would disengage any sort of body. As a general rule, one can deal with all bodies by the operation in the neck, if they are impacted within the reach of the finger manipulating in the œsophagotomy wound. That distance is six inches from the cricoid cartilage, according to Richardson's measurements. Beyond this point gastrotomy would be necessary, and probably safe and efficient.

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* "St. Louis Med. and Surg. Journal," January, 1887.

† "Boston Med. and Surg. Journal," Dec. 16, 1886, p. 573.

ACETANILIDE AND ANTIPYRINE
IN THE TREATMENT OF
EPILEPSY AND CERTAIN ALLIED DISORDERS.

By JOSEPH LEIDY, Jr., M. D. (Univ. of Pa.),
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Already medical journals are in receipt of communications the tenor of which is to decry the use of antipyrine and acetanilide; it was hoped that these remedies had proved exceptions to the majority of new drugs, in that they had come to stay. It is not, however, the object of the present article to discuss their use as antipyretics, but in the treatment of epilepsy and certain allied affections, with the hope that the conclusions drawn may be of some value to those already interested in the action of these powerful remedies.

The control which antipyrine and acetanilide manifest over the nervous system has led many observers to use them in the treatment of a variety of nervous affections. Medical journals at home and abroad have devoted no small space to the reports of cases so treated. So fragmentary are they, however, covering so few cases, that conclusions could hardly be drawn with any hope of acceptance by the general profession.

Within the past few months the writer has had an opportunity of giving these drugs a pretty fair trial in several cases of epilepsy, hystero-epilepsy, hysteria, insomnia, paræsthesiæ, and various crises of tabes dorsalis, nervous headaches, neuralgias, sciatica, lumbago, and rheumatism, with results which, though encouraging, are hardly sufficient to warrant their maintaining the position which many have alleged for them.

Much material has been obtained from private hospital and dispensary practice; the greater part has been utilized. The reports of many more carefully selected cases from American and foreign journals have been reserved for statistics.

The cases of epilepsy were selected irrespective of their causation or variety. Those of tabes dorsalis were all of syphilitic origin. Headaches were mostly of the congestive type.

Neuralgias consisted of the trigeminal, intercostal, visceral, and suboccipital varieties. Cases of insomnia were the result of over-work and nerve exhaustion; two cases were of obscure origin, with an hysterical element.

The following concise notes are given of a number of the more interesting. Want of space prevents full reports of all the cases treated:

Case I.—Ab. N., aged twelve. Father and brother epileptics. When a year old, received a severe injury on the back of his head from a fall of nineteen feet; was picked up unconscious; developed epilepsy two years ago. At first the attacks were simply epileptoid, numbering three or four a week; they gradually increased in number and violence until he averaged one or two a day. Gastric and brachial auræ well marked. The convulsion begins in the left hand, extending upward and involving the left side, and finally becoming general; lately he has developed a well-marked post-epileptic mania. On July 2, 1887, he was trephined, with negative results; bone and membranes normal. Has been treated with bromides separately and in various combinations, with nitro-glycerin, without the slightest effect, and antipyrine, which proved useless. Up to September 11th had never gone over five days without a seizure. On that date acetanilide, gr. iv, three times a day, was ordered. On the 12th he had a slight seizure. On September 24th he had another. An interval of twelve days having elapsed, the dose was increased to gr. viij. On October 4th there was another slight seizure. It was now noticed that he had frequent tremors, beginning in the left hand and gradually involving the left side, without loss of consciousness. Post-epileptic mania disappeared entirely. At the present time (October 20th) perfect freedom still exists.

Case II.—William K., aged forty-three; family history good. Epilepsy developed four years ago, one year following an attack of scarlet fever. Seizures preceded by buzzing in the ears, four or five attacks a day. Has been on bromides, nitro-glycerin, and acetanilide, with negative results. Antipyrine was ordered September 30th. Since then, the attacks have been reduced to three a day.

Case III.—Joseph R., aged twenty-three; family history good. Has had fits for three years, with an hysterical element. Acetanilide was ordered in January and continued until May 7, 1887, during which time he was perfectly free from attacks. Medicine was now stopped. Between May 7th and May 20th he had nine fits. Acetanilide was ordered again, and since then he has had no fits.

Case IV.—Mrs. M. L., aged fifty. Fits since twenty-four years of age, two or three a week. Bromides afforded no benefit. Acetanilide, gr. vj four times a day, was given, which benefited her for two weeks, when the attacks became very violent and increased in number.

Case V.—Robert B., aged seven, convulsions when a year old; usually has one every week. Acetanilide, gr. iv, t. i. d. Convulsions increased to three and four a night.

Case VI.—Charles H., aged seventeen; father an epileptic; has had fits for ten years; averages two or three a week; interval between them never longer than four days. Acetanilide was ordered, followed by an interval of three weeks; he then had four fits in one week; since then, ten weeks ago, has had no seizures.

Case VII.—M. J., aged thirty-four; hysteria; felt badly all the time. Ordered acetanilide. Took the medicine for two weeks with no benefit. Antipyrine was now ordered. Says she feels better, but does not know whether it was the medicine or not.

Case VIII.—Martin S., aged thirty-five, male, insomnia, with hysterical elements. Acetanilide was ordered at bedtime, with desired results.

Case IX.—John M., aged thirty-four, melancholia, with delusions of persecution. Antipyrine and acetanilide of no value; seemed to feel worse afterward.

Case X.—J. Mc., aged forty-two, tabes dorsalis; specific history; came under treatment when the disease was far advanced, was greatly benefited by the usual antisyphilitic treatment, but suffered greatly from formication, which symptom resisted all treatment, including galvanism. Put on acetanilide in April, 1887; experienced great relief after the fourth dose; has not been troubled since. I saw this patient in the latter part of August, and he was still free from this symptom.

Case XI.—Mary S., aged forty-eight, tabes dorsalis; specific history; the gastric crises, attended with excessive vomiting and headache, were greatly relieved by acetanilide; on stopping the administration, the symptoms returned, but were finally controlled.

Case XII.—Mrs. M. J., aged thirty-five, operated upon for laceration of cervix, complains greatly of suboccipital headache and extreme nervousness. Antipyrine afforded no relief. Acetanilide relieved the headache and nervousness. Patient better than she has been since the operation, six weeks ago.

Case XIII.—Laura M., aged nineteen, headache due to sexual excitement; much pain at menstrual periods. Antipyrine negative. Acetanilide relieved the headaches completely, and afforded great relief at menstruation.

Of thirty-six patients with epilepsy, fourteen were greatly benefited by acetanilide and three by antipyrine. Acetanilide aggravated the attacks in four cases.

In five cases of hysteria, antipyrine proved itself a useful remedy, and worthy of further trial; the results from acetanilide were negative.

In three cases of hystero-epilepsy, the results from both drugs were negative.

In four cases of insomnia the use of acetanilide was attended with some benefit. Antipyrine failed signally, although in one case, due to nervous exhaustion attendant upon sexual excesses, it proved effectual in relieving the headache and producing a refreshing sleep.

In fifteen cases of supra-orbital and suboccipital neuralgia, nine were greatly relieved by acetanilide and four by antipyrine.

In two cases of intercostal neuralgia, acetanilide gave immediate relief.

In five cases of nervous headache great benefit was obtained from acetanilide. Antipyrine proved of doubtful utility.

Of seventeen patients with sciatica, acetanilide benefited eight; negative results with the remainder.

Of ten cases of lumbago, seven were relieved temporarily and two permanently by acetanilide.

In six cases of rheumatism, pain was greatly relieved by acetanilide, and in one case by antipyrine.

In five cases of tabes dorsalis the gastric crises and headache were relieved by acetanilide, formication disappeared in four cases under observation, in one case no benefit was derived.

In conclusion, it may be said—

1. *In epilepsy*, when acetanilide does good, its action is rapid; it does so by diminishing the violence and number of the attacks, and, as it has a tendency to aggravate the disease in some cases, the nature of which could not be determined, although it occurred only in those cases with a marked hereditary predisposition, its use should not be continued over two weeks unless some benefit has been obtained. Cases of *petit mal* prove the more amenable to treatment, though in two cases of *haut mal* the drug was of great service. Antipyrine has proved itself inferior in every respect to acetanilide. Neither remedy is to be used as a substitute for the bromides, but simply as an addition to the limited number of drugs now at our command.

2. *As an analgesic*, acetanilide has proved itself a valuable remedy; the majority of the cases treated have been benefited. Antipyrine appeared beneficial in several cases, though it is not to be ranked with acetanilide.

3. *As a hypnotic* further experimentation is needed, but from the cases under observation both drugs are of doubtful efficacy.

In the administration, acetanilide was used first and considered the safer drug. From acetanilide there are no objectionable after-effects, except it be cyanosis, which only occurs after the ingestion of large doses, and usually in cases attended with marked elevation of temperature; on the other hand, collapse, disturbances of the gastro-intestinal tract, respiration, and circulatory apparatus, with fatty metamorphosis of the liver and kidneys (Dr. Porter, in "New York Medical Journal"), prove sufficient objections to the use of antipyrine.

The dose of acetanilide varied from gr. iij to x; that of antipyrine from gr. x to xv.

In conclusion, I wish to express my hearty thanks to Dr. Pepper and Dr. Osler for their kind assistance, also to Dr. Burr, of the Orthopædic Hospital, and to my colleague, Dr. Harvey Shoemaker.

Bibliography.

Demicoille, Paul.—"British Med. Journal," Aug. 20, 1887.

Hamilton, Allan McLane.—"N. Y. Medical Journal," May 28, 1887, including cases collected from London "Lancet," "British Med. Journal," "Medical News," "Medical Times," "N. Y. Med. Journal," and "Therapeutic Gazette."

University Hospital.

BLACK MEASLES:

FOLLOWED BY GASTRIC ULCER AND FATAL HÆMORRHAGE.*

By ROBERT ABBE, M. D.

In February last a young lady of twenty-two years, in the prime of health, was attacked by what at first seemed to be measles of average severity, but which at the end of a week was accompanied by marked depression of the heart's action and much prostration, a disposition to syncope, rapid wasting, sallow skin, and a striking loss of tone in the skin, which, when pinched up, sluggishly returned to its place.

Coincident with this, all the exanthematous patches on the lower extremities and hips and back, and, in a less degree, those on the trunk and arms, became hæmorrhagic. The stains of these patches remained two or three weeks. With much care, and the judicious use of stimulants, including strophanthus, which acted well as a heart tonic, she rallied from the prostration into which she had fallen.

Convalescence was slow, and a purulent bronchitis seemed for a time about to degenerate into phthisis. Two months spent in the South, however, improved her condition greatly.

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* Read before the New York Clinical Society, September 23, 1887.

When she returned to New York in May she was quite well again.

On the 16th of May she had taken a trip out of town, and in the evening attended a social dinner, and enjoyed herself greatly, feeling that she was in excellent health again.

On the following morning she seemed equally well, except for one thing—namely, that after breakfast she felt some pain in her abdomen, which was relieved by bending over for a few moments and pressing both sides with her hands. It was *now* recalled that she had for some weeks past felt this same *growling* pain (never *sharp* or *cutting*), especially after breakfast, and lasting only a few moments, and she said that after lunching with a friend a few days before some ginger tea was made for her, as the pain came on, and was thought to be a slight indigestion pain. She was never nauseated, and had no dyspeptic eructations.

On May 17th she ate her breakfast with her usual relish, but her father afterward recalled that she pressed her hands to her sides while talking with him, though she complained of no pain. We may therefore infer that there was no more than a sense of discomfort present.

About noon she thought her stomach felt unsettled, and her mother was about to prepare her a little soda to drink, when the young lady rushed to the bath-room and vomited a basin half full of what seemed pure blood. Her mother quickly followed, and found her about to fall, and ashy pale. Her syncope was almost complete. I was at her bedside in fifteen minutes. Her face was still blanched, her pupils were widely dilated, and her pulse was scarcely to be felt at the wrist and beating 102. Extremities cold and clammy. Mind acting well but slowly. Speech slow. Her only pain was a slight one in the *right* epigastric region, where pressure showed tenderness. Abdomen flaccid. Epigastrium resonant. Stomach probably empty. I administered a small hypodermic of morphine and atropine, with several of brandy and some digitalis. Hot bottles everywhere. Cracked ice to suck, and a small epigastric ice-bag. There was no more vomiting for twenty-four hours. She gained a little pulse during the day, but her breathing continued shallow, and there was a constant call for "more air," and complaint of a sense of "sinking away" into the pillows, the result of the hæmorrhage.

Examination of the ejecta showed three pints or more, of which at least *one pint* could be estimated to be pure blood, something like two tumblerfuls of jelly-clots being mixed with the blood-stained mass.

The morphine eased her, and she remained absolutely quiet during the day. Toward evening she was allowed one tablespoonful of milk, with one minim of Magendie's solution and two of tincture of digitalis every hour.

In twenty-four hours she was feeling very weak, and was allowed a little peptonized milk every hour. Just twenty-four hours after the hæmorrhage she had a large tarry movement of the bowels, characteristic of the digested blood.

She was still quite prostrate. An opiate once, and hypodermics of brandy several times, were all the medication for the day. As it was desired to keep the stomach as empty as possible, a nutrient enema of beef peptonoids and milk was ordered, after consultation with Dr. Weir and Dr. Kinnicutt.

The nurse was in the act of inserting the enema tube when the patient suddenly went again into syncope, became pulseless, and vomited half a teacupful of bloody fluid, and half an hour later the balance of a teacupful and a half, of which there was two thirds of a cup of clotted blood. Her condition was at once more desperate. I fortunately was in the house, and administered hypodermics of brandy, ammonia, strophanthus, and morphine, and, in addition, one of ergotin. By dint of these stimulants, elevation of the foot of the bed, and constant fanning, the patient kept up for a few hours, and gained gradually, so that by Friday (the first hæmorrhage having been on Tuesday) she was gaining a little color in her lips, and was free from epigastric pain. Her complexion looked considerably darker, which I attributed—whether rightly or not I do not know—to the blood absorption by the bowel. She had three large fluid, tarry movements after the second hæmorrhage. Nutrient enemata were continued three or four times a day—at first beef peptonoids and peptonized milk (which seemed to cause wind), and, later, starch-water with beef peptonoids or the whites of eggs and water, with laudanum and brandy and other variations.

At the end of the fourth day her temperature was 101° F., pulse 120. She had slept but little. With the morning enema thirty grains of urethane were given, and she had two or three hours of refreshing sleep. Her face lost the dark tint. Tongue pretty clean. Nothing was being taken by the mouth but a few tablespoonfuls of iced Vichy in the day.

Urethane, thirty grains, was given again in the evening with a larger enema, and she slept lightly all night. The pupils, which had been dilated until now, became more natural.

On the fifth day she was quite uncomfortable from ulnar neuralgia and cramps of the left upper and lower extremities.

On the sixth a small, tender swelling appeared below her right ear, not larger than a bean, and lying on the front of the sterno-mastoid muscle. This swelling rapidly enlarged, and took in the whole parotid gland. In thirty-six hours the temperature rose to 103°, the side of the face and neck being greatly swollen and brawny, without fluctuation. Suppurative parotiditis was diagnosticated, and a careful but free incision was made by Dr. Weir, which liberated pus. The temperature quickly fell 2°, and it was hoped further trouble had been averted, and, as far as this parotid abscess went, it was. Whether this was a septic abscess secondary to absorption from gastric ulcer, or the result of an embolus from some common cause, such as might have originated the gastric ulcer as well, or whether it was simply a sympathetic parotiditis, such as has been shown by Paget to be a not uncommon occurrence in cases of ulcers and other lesions of abdominal viscera, was a matter of some uncertainty in the minds of the consultants. Our presumption, however, was that it was septic.

Though her temperature had fallen, it now became evident that it was to be a fight to gain strength, the enemata not having given her what we hoped for.

It was now six days since the last hæmorrhage, and it was deemed safe to begin a little feeding by the mouth; indeed, it was evident that she would not survive a day or two unless some aid was thus obtained.

A pint of milk and two or three ounces of cream were, therefore, given by the mouth during twenty-four hours, and retained; three ounces of brandy, also, by one or the other method. Occasionally small hypodermics of morphine were necessary to allay nervousness. The motions of the bowels, though small, were natural again in color until the tenth day, when some blood was again seen in the stool. The patient grew weaker in spite of increased nourishment. Extremities cold, pulse feeble. The evening temperature rose each day somewhat higher, with a morning remission without sweating. Finally, on the thirteenth day, the temperature rapidly mounted to 105°, and the patient quietly passed away without further evidence of hæmorrhage.

Though we had at hand a transfusion apparatus from the first hour of her illness, there seemed to be no time when, in the opinion of Dr. Weir, Dr. Kinnicutt, and myself, we could use it without more harm than good. The diagnosis agreed upon from the first was ulcer of the stomach, Dr. Kinnicutt even venturing so far as to locate it "probably on the posterior wall in the cardiac end."

An autopsy was made by Dr. Ferguson, who writes me that no more interesting case has occurred to him in an extensive experience.

The autopsy showed, in addition to marked anæmia of all the organs, a stomach which was normal in size and location; the cardiac and pyloric orifices were normal in size and perfectly free. The mucous membrane was smooth and very pale in color. In the posterior wall, 6 cm. from the œsophageal orifice, and just to the right of a line drawn parallel to the œsophagus, was an apparent loss of the mucous surface, circular in shape and 6 mm. in diameter. In its center was a hard nipple-shaped elevation, and beside this elevation, extending transversely across the implicated area, was a vessel with thin walls partially filled with blood. There was no elevation of the edges of the area, and by the unaided eye it could not be identified as an ulcer. Microscopic examination of the area showed a total loss of the mucous membrane to the extent of the measurements given above. At the base of this ulcer were seen an artery and vein of considerable size. The walls of the vein were everywhere intact. The hard, nipple-like elevation already described was the ruptured wall of an artery. Sections carried along through the entire ulcer showed a rupture of the artery involving one half of its wall. The other half showed no evidence of disease. A mass of fibrin and blood clung to the ruptured wall, and for a short distance on either side of the rupture the wall was split up and contained fibrin and blood. There was a zone of small, round cells surrounding the ulcer, and at the bottom the capillaries were filled with blood, and the round cells of inflammation infiltrated the connective tissue. Sections made in other parts of the stomach revealed no lesion of its coats or vessels.

Correspondence.

LETTER FROM PARIS.

Verneuil on Imaginary Ulcerations of the Tongue.—Garcin's Hydrofluoric-acid Treatment of Tuberculosis.—Copper in the Treatment of Tuberculosis.—Dr. Skinner's Treatment of Sea-sickness.—Statistics of the Paris Hospitals.—A Crematory in Père Lachaise.

Paris, *October 3, 1887.*

Professor Verneuil always has something new to tell when he makes a communication to the Academy of Medicine, and his latest, on "Imaginary Ulcerations of the Tongue," is no exception to his rule. Velpeau years ago described the imaginary tumor of the breast, and most physicians have met with cases where there is some pain, with a slight lesion sometimes, which is very difficult to distinguish from the regular normal anatomical disposition. This consists of small granular bodies of no gravity at all, and the pain mostly comes from a slight intercostal or mammary neuralgia, or even a brachio-thoracic neuralgia. The present affection, however, that Dr. Verneuil treats of relates to the tongue, and it also consists of two factors, one being pain, and the other a pseudo-anatomical lesion, a natural peculiarity that is taken for a sore or tumor. Five such cases have been observed lately, and, as they are all much alike in character, one will serve as a type of all such cases. A lawyer, forty-two years old, without the slightest pathological antecedent, such as syphilis or any other disease, except that he was of a gouty family, comes to see M. Verneuil in regard to a pain which he suffers from in a certain circumscribed spot on his tongue, and which sometimes extends to one half the organ, being increased with mastication and speech. On examination, the tongue presents nothing at all abnormal. The patient, however, insists and points to the anterior and external part of the region of the circumvallate papillæ, but, except that one of these papillæ seems slightly enlarged, nothing can be found to justify the pain; so that a diagnosis is made of simple lingual neuralgia. Slightly touching the part with cocaine, together with the usual treatment for an arthritic constitution, cures most of the cases, with strong moral advice to the effect that there is really nothing the matter with the tongue; but Dr. Verneuil is in favor of instituting some more effective treatment, as often the moral is not enough. He proposes, therefore, cauterizations with Paquelin's cautery and perhaps sublingual injections. A number of the members had seen such cases, and had had patients running to them for imaginary cancers of the tongue, and Professor Fournier, in particular, had been much bothered with this class of patients with imaginary chancre of the tongue, if they had ever been afflicted with the slightest venereal trouble. Dr. Fournier said that the principal cause was, no doubt, the gouty diathesis, and a second cause was artificial teeth plates, no matter how small they were. Perhaps there were other causes, and it was well that Professor Verneuil had brought up this hitherto undescribed malady, which was certainly a much more common trouble than one would think at first.

The star of Bergeon's treatment waning a little, new forms of cure for tubercular patients are being found with unabated vigor, and M. Garcin comes to the front with hydrofluoric acid. This new method consists in placing phthisical patients for an hour every day in a small cabinet which contains six cubic metres of air that is saturated with hydrofluoric acid. This saturation is obtained by pumping a current of air through a gutta-percha bottle that contains 100 grammes of the acid to 300 grammes of distilled water. The quantity of air pumped in is renewed every fifteen minutes, as the effect is quickly exhausted. The system has been tried for a year past in a number of cabinets that M. Garcin has had fitted up in a room in his own house, and during the month of August a hundred patients were submitted to the treatment. Of this number, fourteen remained as before, forty-one were improved, and thirty-five were cured, while ten died. It is stated that under the influence of this form of medication the attacks of coughing diminish and finally cease. The Koch bacilli can not resist this acid, as they at first are found to diminish in number and soon they no longer segment; at last they entirely disappear from the secretions. The general state of all the patients was much improved, the appetite was increased, the night sweats ceased, and some patients treated over a year ago remain well. It seems that the workmen at the celebrated glass manufactory at Baccaret had first noticed that the hydrofluoric acid they employed had good effects on the health of consumptive persons.

Professor Luton, of Reims, in a recent long article, concludes that the cure of tuberculosis can generally be obtained by means of the phosphate of copper, which, however, must be in the nascent state and soluble in an alkaline body. For twenty-five years Dr. Luton has sought for this cure, and he thinks he has found a specific. He employs the following formula:

Neutral acetate of copper...............	0·15 grain;
Crystallized phosphate of sodium........	0·75 "
Glycerin, Powdered licorice,	each, a sufficient quantity.

This is for one pill.

A double decomposition takes place in the stomach, and there is a specific action on the part of the copper, with a dynamic action on the part of the phosphorus in the preparation.

Dr. W. Skinner, a ship's surgeon and an American-Paris graduate, makes a communication to a Paris journal in regard to a new method of treatment of sea-sickness. He thinks that it must be admitted that the blood-pressure is lowered in this affection, and that the cause of this defect must reside in the great sympathetic nervous system. Be this as it may, he has met with great success with the following treatment:

Sulphate of atropine, Sulphate of strychnine, } each	0·60 grain;
Mint water	600·00 grains.

Fifteen minims of this solution are injected subcutaneously; in children, one sixth of the amount is enough. At another time the following was used:

Caffeine	60 grains;
Salicylate of sodium	45 "
Water, enough to make	10 c. c.

Dissolve with heat, and inject four minims.

Dr. J. Russell Harris, writing to the "Lancet" for September 21st, comes to the conclusion that sea-sickness is caused by the presence of bile in the stomach. This gives rise to a peculiar burning sensation in the epigastrium before the actual onset of vomiting, which goes away afterward, as he infers from actual experiment on himself and from the statements of many persons who have suffered from the annoying *mal de mer*. Dr. Russell thinks that the nervous system is powerfully exhausted, and that the pyloric sphincter, under the influence of the nerves distributed to it, relaxes enough to permit a regurgitation of bile into the stomach. He thinks that a pad on the epigastric region and one on the back, with a mild electric current passing between them, ought to right the trouble, and he adds that strychnine ought to be beneficial. This, then, may account for the benefit of Chapman's ice-bag applied to the spine, and seems to explain the wonderful cures that our countryman, Dr. Skinner, has effected with his hypodermic injections of the strychnine prescription.

According to statistics just published, there are in Paris thirty-nine hospitals, or twenty-six large hospitals and thirteen small ones. The medical service consists of ninety-nine physicians, thirty-seven surgeons, ten accoucheurs, twenty-two drug-clerks, and one hundred and ninety-eight internes, with twenty-two *sages-femmes*. The number of beds in all is twenty-three thousand eight hundred and thirty-eight. Of these, eleven thousand five hundred and twenty-six are for acute diseases, nine thousand nine hundred and sixty-two for old and infirm patients, one thousand five hundred and sixty for insane people, and seven hundred and ninety for children.

Next month there is to be inaugurated a large cremation building in the Père Lachaise Cemetery here. The edifice is a very fine one, with the general aspect of a massive parallelogram, three stories in height, surmounted by two large columns, which are the two great chimneys. There are three domes on the roof, that resemble the domes of a church. Under these are the great cremation chambers, with the ovens constructed on Govini's system. The front is in black and white marble, while spacious rooms are set apart on each side for the reception of the families and invited spectators. This fine monument is the most complete structure of the kind known to modern days. It was not constructed exactly as a public crematory, for the original intention was only to cremate all the *débris* of the Paris hospitals, and the remains of about four thousand five hundred bodies after the dissections of the year. These remains have been buried up to the present time, but Professor Brouardel, the celebrated hygienist and present dean of the Paris faculty, induced the government to build a cremation building to burn these remains. Once the building was commenced, a very fine one was made that will serve for general use for those who approve of this method of disposing of their remains. Last year the Chamber of Deputies passed a bill to allow it, and approved of the legality of incineration of cadavers; it now only remains for the Senate to agree and the President to sign the bill, when Americans can find a new advantage in Paris—they can be buried or burned, as they like.

LETTER FROM BIRMINGHAM, ALABAMA.

The New Southern Surgical and Gynæcological Association.

Birmingham, Ala., *October 20, 1887.*

The Alabama Surgical and Gynæcological Association held its annual meeting in Birmingham on the 11th, 12th, and 13th of October, and, pursuant to a previous call, a special meeting was held to consider the advisability of organizing an association of like character, to embrace all the Southern States. This meeting was prompted by the many urgent requests of the most prominent physicians in the South that the Alabama association would extend its membership so as to include all the Southern States. With this plan in view, the secretary of the Alabama association corresponded with a number of the leading men of each State, asking them to be present at the meeting of the Alabama association on the 11th of October, to consider the advisability of organizing such a society. At this meeting there were representatives from a number of Southern States, including a large delegation from Alabama, and, besides, the secretary had been requested to present the names of many who could not be present, but who, in anticipation of the formation of the society, had asked to have their names enrolled as members. Dr. H. N. Rosser was made temporary chairman, and Dr. W. E. B. Davis secretary. The constitution and by-laws submitted by the Committee on Organization differed from those of the State association only in some minor particulars made necessary by the enlarged scope of the new organization. The association includes all the Southern States, and its meetings will be held at such places as may be selected, on the second Tuesday of September of each year. The annual dues are $10. A judicial council consisting of five members will have charge of all applications for membership and of all judicial and general business affairs pertaining to the organization. Dr. W. D. Haggard, of Nashville, was elected president, and, on being conducted to the chair, said that he had no words to express his appreciation of the honor conferred upon him, that he deemed it the highest compliment of his life, and that he could only promise that his best energies should be devoted to the interests of the association. The following additional officers were then elected: Dr. R. D. Webb and Dr. J. W. Sears, both of Birmingham, first and second vice-presidents respectively; and Dr. W. E. B. Davis, of Birmingham, secretary, by a unanimous vote. The president, having announced Dr. Davis's election, said that he recognized the position as being the most important in the organization, and that Dr. Davis's excellent record as secretary of the State association would be sufficient guarantee of his efficiency in the new and wider field. Dr. H. P. Cochrane was elected treasurer, and Dr. W. F. Hyer, of Holly Springs, Miss., orator. The following-named gentlemen were elected to compose the judicial council: Dr. John T. Cain, of Nashville; Dr. Hunter McGuire, of Richmond; Dr. J. M. Taylor, of Corinth, Miss.; Dr. De Saussure Ford, of Augusta, Ga.; and Dr. B. A. Kinloch, of Charleston, S. C. Birmingham was selected as the place for the next meeting. Much interest is being manifested in the new organization by the profession of the South, and it promises to be one of the most scientific bodies in the country. The South has excellent material, and this organization will doubtless afford an incentive to much valuable work.

THE
NEW YORK MEDICAL JOURNAL,
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 29, 1887.

GLEDITSCHINE.

A few weeks ago, Dr. J. Herbert Claiborne, Jr., of New York, announced that a veterinary surgeon, Mr. M. Goodman, had accidentally discovered that the leaves of a certain Louisiana tree, made into a poultice, had anæsthetic properties; that Dr. Allen M. Seward, of Bergen Point, N. J., had analyzed the leaves, and, having found by exclusion that their anæsthetic property must reside in an alkaloid that he had discovered in them, had prepared a two-per-cent. solution of the alkaloid and proved by experiment that the solution acted as a local anæsthetic; finally that he (Dr. Claiborne), in conjunction with Dr. Seward and with the co-operation of several medical men, had satisfactorily ascertained that the substance in question really possessed anæsthetizing properties. Dr. Claiborne's communication was published in the "Medical Record" for July 30th, and several articles on the subject have since appeared in that and other journals. The substance said to have been obtained from the Louisiana tree, known in that State as the tear-blanket-tree, and elsewhere as the honey-locust, has been considered as a peculiar alkaloid. At first it was named stenocarpine, because the tree, the botanical character of which had not then been determined, was said to resemble the *Acacia stenocarpa*, an Egyptian tree that furnishes Suakin gum arabic; now, however, it seems to have been settled that the tree is the *Gleditschia triacanthos*, and accordingly the name of the supposed alkaloid has been changed to gleditschine.

The general purport of the various experiments that have been reported is that, used topically, gleditschine seems to have properties almost if not quite identical with those of cocaine in so far as its anæsthetizing action is concerned, but that, when used upon the eye, it produces great dilatation of the pupil (sometimes with contraction of the opposite pupil). This mydriatic effect is said to last no more than half as long as that produced with atropine. On this account, the new drug has been thought to promise to be of special service in cases calling for both an analgesic and a mydriatic, particularly if prolonged dilatation of the pupil is to be avoided. The statements thus far published have excited general interest, as is exemplified by the preparations made by some of our leading pharmacologists to subject the leaves to thorough examination, and by the measures taken by Dr. Mattison, of Brooklyn, for a systematic comparison of the physiological effects of gleditschine with those of cocaine.

Prominent among the pharmacists who have set to work to study the *Gleditschia triacanthos* are Messrs. Parke, Davis, & Co., the well-known manufacturers, of Detroit, the substance of whose brief announcement to that effect we published last week. It is now somewhat startling to find a statement from that firm implying that "the stenocarpine sensation" is probably to be classed with "the hopeine fraud." Messrs. Parke, Davis, & Co. state that their own examination of the two-per-cent. solution furnished by Messrs. Lehn & Fink, of New York (to whom, they say, they were "referred by the discoverers" for a supply of the solution "with which the experiments thus far recorded have been made"), shows that it contains six per cent. of cocaine and a sulphate which further experiment is likely, they think, to prove to be that of atropine. They also cite Mr. F. A. Thompson's declaration, founded on experiment, that the leaves of the *Gleditschia triacanthos* "contain only an infinitesimal percentage of an amorphous alkaloid devoid of anæsthetic or mydriatic properties." In the light of these investigations, Messrs. Parke, Davis, & Co. say that it seems probable that "the physicians who have already published reports regarding gleditschine, or stenocarpine, have been the victims of a clever hoax."

It is not to be supposed that Messrs. Parke, Davis, & Co. would make such emphatic statements unless they were convinced of their truth, and it is not probable that their investigations have been erroneous. Nevertheless, before it is decided that there is no such anæsthetic alkaloid as gleditschine, it will be well to wait for further researches to be concluded, and that need not occupy much time. In any event, Dr. Claiborne is to be commended for the carefulness and conscientiousness with which he has studied and written upon the solution with which he has experimented and the tree from which its active ingredient purported to be derived.

THE NEW YORK QUARANTINE STATION.

Through its committee on hygiene, the Medical Society of the County of New York keeps diligent watch over the sanitation of the city and port of New York. Last Monday evening, Dr. John C. Peters reported to the society that the committee had appointed him to visit Hoffman Island and Swinburne Island, and to report to the society what he might observe. He had made but one visit, but on that occasion he had remained from early in the morning until late at night, the quarantine authorities having been informed of his proposed visit some hours beforehand. He had found the lower island in admirable condition. Hoffman's Island was very cleanly, but he thought the rooms were somewhat dingy. Whether or not the cleanliness that he had found was kept up when visitors were not expected, he could not say. There was no resident physician on either island. With one exception, all the cases of cholera that had lately developed on the island had appeared among the most filthy of the three classes into which, on a scale of comparative filthiness, detained immigrants were divided, and most of them in particular parts of the building. The food, on the day of his visit, was of good quality and well cooked, but it seemed not to be the custom to provide the inmates with knives and forks, and groups of them had to eat from a common dish, using their fingers or their pocket-knives—a mode of eating that would certainly favor the ingestion of any cholera germs that might be lurking about their persons. The front portions of their clothing were exceedingly filthy, as if they had been used for napkins. The speaker had omitted to inform himself as to the facilities for bathing, but the basins that he had seen contained no water.

Dr. Peters estimated that it would not require more than five thousand dollars to equip Hoffman Island properly. It was true, as Dr. Daniel Lewis had stated in the discussion, that the law did not require the expense of keeping the buildings in order to be met from the health officer's fees, also that the State's direct appropriations for the purpose were apt to be withheld or made insufficient whenever the political party in power was not in accord with the health officer. It was the speaker's conviction, however, that the income of the quarantine department was sufficient, if not diverted to political purposes, to equip the institutions completely and keep them in good order, and it was unjust to tax the people twice for the purpose.

It is not a very satisfactory state of things that Dr. Peters depicted, but there is some consolation for the public in his having said, in reply to a question, that he did not think cholera would appear in this country next summer, unless there was a fresh importation. We do not see how any different opinion could be entertained.

MINOR PARAGRAPHS.

THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

The organization of this association, as set forth in the letter from Birmingham, Ala., which we publish in this issue, can hardly fail to promote the advance of those branches in the Southern States; indeed, it will probably exert a notable influence on progress in surgery in gynæcology throughout the country. Many of the most illustrious names in the annals of American surgery—particularly gynæcological surgery—both of the living and of the dead, are those of men who were either born or educated in the South; and we look upon this movement as a token that that part of the country may be counted on to keep up its prestige and stimulate the North to still warmer emulation.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

This is the title that seems to have been settled upon for the confederation of national special societies to which we have alluded on several occasions, and of which we give in this issue a definite outline of the plan of organization. All the well-known societies that were asked to take part in the movement appear to have consented to do so, with the single exception of the American Gynæcological Society. At that society's recent annual meeting, Dr. Busey, on behalf of the committee appointed to take part in a preliminary conference, reported favorably upon the question of the society's entering upon the movement. The report failed of adoption, but that was not owing to any distrust of the success of the confederation or the desirability of its formation, but simply to the fact that the society was perfectly satisfied with its own condition and indisposed to enter upon experiments. Notwithstanding this exception, the congress is strong enough in its constituency, and will doubtless achieve the objects of its promoters. It has certainly shown wisdom in choosing Dr. Billings as its first president, and its first meeting will doubtless be looked forward to with great interest by the profession.

A MEXICAN DOCTORA.

Lady practitioners are held in high esteem in Mexico, if we may judge by an account given in one of the Mexican newspapers of a recent festal occasion in the life of an *ilustrada doctora*, Señorita Montoya. It occurs to us, by the way, that the title *doctora* suits a woman far better than doctor. Numerous gifts were sent to Miss Montoya on the day in question, comprising a great number of bouquets, a treatise on diseases of children (by her preceptor, Dr. Soriano), a stereoscope (by her fellow-student, Dr. de Guevara), a elastic anatomical plate, a number of verses and musical compositions, and a card bearing the autographs of several young ladies of the United States.

A FRENCH EDITION OF DR. MUNDÉ'S "ELECTRICITY IN GYNÆCOLOGY."

Dr. P. Ménière, the editor of the "Gazette de gynécologie," has just brought out a French translation of Dr. Paul F. Mundé's work on "Electricity as a Therapeutical Agent in Gynæcology," with notes prepared by himself. It is in the form of a brochure of seventy-two large octavo pages, published by M. Doin. In his preface, Dr. Ménière calls attention to the fact that no work on the subject has previously been published in France, and speaks in terms of deserved praise of Dr. Mundé as a writer and teacher. The book is handsomely printed and well illustrated. Several of the cuts have been added by the translator, and his foot-notes are to be found on almost every page. It is gratifying to observe this new example of the increased frequency with which American works are being placed within the reach of those who do not read English.

POISONING WITH NON-POISONOUS MUSHROOMS.

Poisoning as the result of eating non-poisonous fungi, paradoxical as it may seem, is met with now and then. In a recent issue of the "Deutsche Medizinal-Zeitung," Dr. Goldschmidt gives a summary of the history of a case in point, observed by M. Prevost, and originally published in "La France médicale." Such cases of poisoning, says Goldschmidt, are due to some collateral circumstance—often to the ova of poisonous flies, sometimes to decomposition, and again to insufficient cooking. But, in the instance in question, the result must have been owing to some peculiarity of the patient, for five or six other persons ate of the same fungus with impunity. The patient was a lady, forty-nine years old, previously quite healthy. In the course of a few hours after she had eaten the mushrooms she was seized with abdominal cramps, followed by constipation of four days' duration, which finally yielded to castor-oil. Then bloody dejections occurred, succeeded by vomiting and increasing prostration, and death took place.

AN ANTISEMITIC CHARITY.

The "St. Petersburger medicinische Wochenschrift" states that the Charkow Infirmary of the Society of Charitable Sisters of the Red Cross has decided to discontinue the free issue of medicines to Jews. It is suggested that this course was adopted in consequence of the frequency with which Jews sell the medicines that have been ordered for them by prescription. This, of course, does not warrant the plan settled upon; it would probably be quite as effective, and certainly just, to refuse to give medicines to any person, Jew or Gentile, on satisfactory proof of his having resorted to the device complained of.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 25, 1887:

DISEASES.	Week ending Oct. 18.		Week ending Oct. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	44	8	30	6
Scarlet fever	61	9	59	11
Cerebro-spinal meningitis	2	3	2	2
Measles	14	3	16	1
Diphtheria	103	30	105	24
Small-pox	1	0	3	1

The Health of New York City.—During the five weeks ending Tuesday, October 25th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: Typhoid fever, 210 cases and 47 deaths; scarlet fever, 275 cases and 49 deaths; cerebro-spinal meningitis, 17 cases and 14 deaths; measles, 68 cases and 10 deaths; diphtheria, 491 cases and 169 deaths; small-pox, 7 cases and 3 deaths.

The Medical Society of the County of New York.—At the annual meeting, held on the 24th inst., it was reported that the expense of issuing the society's "Medical Directory" had been more than covered by the receipts from advertisers. Dr. Daniel Lewis received a vote of thanks for his services in connection with the publication. Like action was taken in the case of the treasurer, Dr. O. B. Douglas, who declined a renomination. Officers for the ensuing year were elected as follows: President, Dr. Laurence Johnson; vice-president, Dr. L. Bolton Bangs; secretary, Dr. Wesley M. Carpenter; assistant secretary, Dr. Charles H. Avery; treasurer, Dr. Alexander S. Hunter; censors, Dr. Daniel Lewis, Dr. J. S. Warren, Dr. R. Van Santvoord, Dr. W. E. Bullard, and Dr. William Stevens. The report of the board of censors stated that during the year over three hundred cases of alleged illegal practice had been investigated, and that twenty-four prosecutions had come to trial, with the result of twenty-four convictions. Dr. John C. Peters presented a report from the committee on hygiene.

The New York Hospital.—Dr. Bulkley resumed his clinical conferences on diseases of the skin on Wednesday, the 26th inst. The course, which is free to the profession, will consist of about twenty conferences.

The New York Skin and Cancer Hospital.—Exercises appropriate to the opening of the new buildings will be held at the country branch, at Fordham Heights, this afternoon. A special train will leave the Forty-second Street station of the New York Central and Hudson River Railroad at 2 o'clock. The programme includes an address on "Cottage Hospitals" by the president of the medical board, Dr. A. Jacobi.

The Kings County Medical Association.—At the next meeting, to be held on Tuesday evening, November 1st, Dr. T. M. Lloyd will read a paper initiatory of a discussion on "Antipyretics."

An Association of Ex-Resident Physicians of Blockley Hospital.—A meeting, at which Dr. S. W. Gross presided, was held in Philadelphia on Tuesday, the 25th inst., for the purpose of effecting a permanent organization. A committee, consisting of Dr. S. W. Gross, Dr. W. H. Parish, Dr. R. W. Deaver, Dr. W. G. Porter, Dr. W. A. M. Dorland, and Dr. D. F. Willard, was appointed to prepare and report a plan of organization and to arrange for a banquet to be held during the coming winter. Dr. Dorland stated that the hospital had been in operation since 1742, and that the centennial of the entrance of the first resident physician would occur on June 6, 1888.

The Congress of American Physicians and Surgeons.—A meeting of the executive committee, for the purpose of organization, was held on October 5th in the Hall of the College of Physicians of Philadelphia. The special societies were represented as follows: American Surgical Association, Dr. Claudius H. Mastin, of Alabama; American Otological Association, Dr. Cornelius R. Agnew, of New York; American Ophthalmological Association, Dr. D. B. St. John Roosa, of New York; American Laryngological Association, Dr. J. Solis-Cohen, of Pennsylvania; American Neurological Association, Dr. L. Carter Gray, of New York; American Dermatological Association, Dr. I. E. Atkinson, of Maryland; American Climatological Association, Dr. A. L. Loomis, of New York; Association of Genito-urinary Surgeons, Dr. John P. Bryson, of Missouri; American Association of Physicians, Dr. William Pepper, of Pennsylvania. The committee was organized by the election of Dr. Pepper as chairman, and Dr. Bryson as secretary. It was decided to hold the congress of 1888 in Washington, D. C., on Tuesday, Wednesday, and Thursday, September 18th, 19th, and 20th. The sessions of the congress will be held in the evenings, leaving the mornings and afternoons free for the sessions of the special societies participating. The following officers of the congress were elected: President, Dr. John S. Billings, of the army; vice-presidents, the presidents-elect of all the participating societies; treasurer, Dr. W. H. Carmalt, of Connecticut. The arrangement of the programme for the sessions of the congress was referred to the president, the secretary, and the chairman of the executive committee.

Scarlet Fever in London.—Lack of space compelled us to omit the following paragraph from our London correspondent's last letter: "For some weeks past London has been suffering from the most serious epidemic of scarlet fever that has visited it for many years. On September 28th there were over 1,400 patients in the hospitals belonging to the Metropolitan Asylums Board, and of course to these must be added the number of those who are being treated at home or in private hospitals, such as the London Fever Hospital. This number it is practically impossible even to guess at, in the absence of a well-conducted system of compulsory notification, but the total number of cases in the metropolis must be very large. So far as I know, however, the type of the disease is not a bad one, and the mortality has not been unduly great."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 9 to October 22, 1887:*

Alexander, Charles T., Lieutenant-Colonel and Surgeon. Relieved from duty as attending surgeon and examiner of recruits at St. Louis, Mo., and ordered for duty at Fort Meade, Dakota. S. O. 235, A. G. O., October 8, 1887.

Cunningham, T. A., Captain and Assistant Surgeon, died October 12, 1887, at Fort Lewis, Colorado.

Wolverton, W. D., Major and Surgeon. Detailed as member of army retiring board at Washington, D. C., convened by S. O. 78, A. G. O., April 5, 1887, vice

Byrne, C. C., Major and Surgeon, hereby relieved. S. O. 241, A. G. O., October 15, 1887.

Gardner, Edwin F., Captain and Assistant Surgeon. Relieved from duty at Fort Reno, Indian Territory, and ordered for duty at Fort Lewis, Colorado. S. O. 241, A. G. O., October 15, 1887.

Cochran, John J., Captain and Assistant Surgeon. Now on duty at the Presidio of San Francisco, Cal., is assigned to temporary duty at headquarters Division of the Pacific as assistant to the medical director of that division. S. O. 244, A. G. O., October 19, 1887.

Ewing, C. B., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 112, Department of the Missouri, October 18, 1887.

Appointment.

Jarvis, Nathan S., to be Assistant Surgeon, U. S. Army, with the rank of first lieutenant, October 14, 1887.

Society Meetings for the Coming Week:

Tuesday, *November 1st:* Kings County, N. Y., Medical Association; New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson, N. J., County Medical Society (Jersey City); Hampden, Mass., District Medical Society (Springfield); Androscoggin, Me., County Medical Association (Lewiston).

Wednesday, *November 2d:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

Thursday, *November 3d:* New York Academy of Medicine; Medical Society of the County of Orleans, N. Y. (annual—Albion); Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *November 4th:* Practitioners' Society of New York (private).

Saturday, *November 5th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Professor Bernhard Rudolf von Langenbeck, of Berlin, a nephew of the great surgeon and anatomist, Konrad von Langenbeck, died on the 29th of September, at the age of seventy-seven. According to the "British Medical Journal," the cause of his death was apoplexy. Von Langenbeck was the recognized leader of German surgery, the editor, in conjunction with Billroth and Gurlt, of the "Archiv für klinische Chirurgie," and the perpetual president of the Association of German Surgeons.

James Knight, M. D., the founder and the chief medical officer of the Hospital for the Ruptured and Crippled, died on Monday, the 24th inst., at the age of seventy-seven. The deceased was a native of Maryland, and received his medical degree from the Washington Medical College, of Baltimore, in 1832. He spent a few years in practice in Baltimore, and the remainder of his life in New York, where he was highly esteemed for his conscientious and beneficent management of the institution which he founded.

Letters to the Editor.

THE NEGLECT OF HOSPITAL ATTENDANCE BY MEDICAL STUDENTS.

New York, *October 21, 1887.*

To the Editor of the New York Medical Journal:

Sir: It has seemed to me right, before leaving your hospitable shores, to put in writing some of the impressions that I have derived from a careful study of your hospitals and other medical institutions; and, if you see fit to publish my remarks, I shall feel convinced that you believe that I speak in all sincerity and with no desire to criticise in a hostile spirit. I have during my stay in New York been most hospitably entertained, and I shall carry away with me most agreeable impressions of the warm heart of my professional brother on this side of the Atlantic. I have seen much that is novel and instructive in your new hospitals and your new college buildings—much that I would fain see imitated on my side of the water. I have been especially impressed with the fact that you have among your younger physicians and surgeons not a few Athenians who are worthy to bear the palm in any intellectual combat. Many of them are as accomplished teachers—especially clinical teachers—as any of the older universities can boast; but what has been especially painful to me to witness is the fact that their services and abilities seem to be unappreciated. In one of your newest hospitals, a few days ago, I heard a gentleman giving most excellent bedside instruction. His material was of the best; he had evidently studied it carefully, by the assistance of an admirably trained corps of resident medical officers and very efficient nurses, and his manner of presenting his views was lucid, concise, and thoroughly scientific. It was painful to me to see that his audience numbered only about a dozen men. I supposed that this was because the hospital fees were very high, and that most of the students could not afford to attend. Inquiry, however, informed me that there were no fees whatever in this hospital, and that every medical student in the city could profit by its teaching absolutely without price. Not only this, but an actual money bonus is paid, so I am told, for a good report of the clinical lectures which are delivered there.

Considering that there are several thousand medical students at work in New York at the present time, I was entirely at a loss to account for this state of affairs.

Can it be that clinical teaching is considered of no account here? Is it possible, with your grand medical advantages, that you rely on didactic teaching solely?

It would seem as though your students *seek a degree rather than an education*, and that your examining boards do not compel them to learn the art of medicine as well as the science.

Some years ago the medical world was shocked by the assertion that in Philadelphia a student of medicine might get his degree without ever having seen a patient. That charge was indignantly repudiated through the medical press. But I really believe that it is not only possible, but a matter of frequent occurrence here in New York. If I am mistaken I shall hope to be corrected, but I fear that I am not.

It is with all sadness that I write these lines, and in no carping spirit. It is so much a matter of surprise to me that I can not withhold expressing it to you, in the hope that I may be wrong.

I have met many American doctors in England and upon the Continent, and have found them uniformly cultivated, well-educated men, and I have been greatly surprised to see the low estimate placed upon an American degree in Europe. But if this painful discovery of mine is not entirely erroneous, I fear that the imputations of Europe upon American medical science are not without foundation.

Pardon the length of my communication. I could not forbear to lay before you what has been to me the greatest surprise in all my American experience.

I have the honor to be your obedient servant,

A Traveler from New Zealand.

THE ABORTIVE TREATMENT OF GONORRHŒA.

159 East Thirty-seventh Street, *October 21, 1887.*

To the Editor of the New York Medical Journal:

Sir: Will you kindly allow me sufficient space for the correction of certain misquotations in an article on "The Abortive Treatment of Gonorrhœa," published in the Journal for October 8th? The author (Dr. E. T. Osborne) states that "Currier in his various articles on 'Gonorrhœa in the Female' at first recommended strong corrosive injections of nitrate of silver, as strong as 60 per cent , but in an article in the 'New York Medical Journal' for October 24, 1885, he disapproves of strong injections altogether, and recommends an injection of bismuth and glycerin (ʒj to ℥j). He believes in the gonococcus, and says this bismuth injection does not kill the germs, but starves them. He afterward states that the glycerin and bismuth so deplete the mucous membrane that the germs have nothing on which to feed, and thus starve. This is certainly difficult to believe, although the treatment may be good." There is simply a question of fact in the case, and, if the writer who did me the honor to quote me had read my statements with a little more care, he would have found ("New York Med. Journal," January 24, 1885, p. 90) that I never recommended nor approved of "strong corrosive injections" in the treatment of gonorrhœa, but precisely the contrary. I did state that I had many times used a *sixty-grain-to-the-ounce* solution of nitrate of silver and with good results. That was used, not as an injection, but as an intra-uterine application upon a film of cotton-wool. Much more extensive experience, since the article in question was written, has confirmed my opinion of the great value of nitrate of silver as a destroyer of the gonococcus. In regard to the use of the bismuth and glycerin mixture, which is one of the most satisfactory combinations for the purpose that I have ever seen, it was stated ("New York Med. Journal," October 24, 1885, p. 454) that it was used as a dressing upon a vaginal tampon, that its function was to deplete the congested tissues and act as an astringent, and that, while not directly destructive to gonococci, it so modified the secretions of the tissues that it deprived them (the secretions) of the qualities which are necessary to cultivation fluids, thus causing the microbes to die of starvation. I shall be much pleased if the author is convinced by these references that I had no intention of saying anything that he quoted me in his paper as saying, except that I believed in the gonococcus. It would also have been pleasant if the other borrowings from my paper, to which he referred, had received some acknowledgment.

Andrew F. Currier.

GLEDITSCHINE (STENOCARPINE).

314 State Street, Brooklyn, *October 15, 1887.*

To the Editor of the New York Medical Journal:

Sir: The fact, seemingly well proved by the experience of Dr. Seward, Dr. Claiborne, Dr. Knapp, Dr. Jackson, Dr. Mitchell, and others, that the newly discovered alkaloid, gleditschine (stenocarpine), is largely like cocaine in its power as a local anæsthetic, has prompted me to determine whether it has a value akin to the coca alkaloid as a stimulant in the treatment of opium habitués, and I am now experimenting in this direction, using a two-per-cent. solution, exclusively by subcutaneous injection. That cocaine, hypodermically, is a valued aid in treating the opiate neurosis, is beyond question, in my opinion, though it is not a specific, and should never be given for this purpose by the patient himself, be he physician or layman. Should gleditschine have a similar value, it may be found free from the ensnaring danger of cocaine, though, assuming the fact of its stimulant power, this freedom from risk will not be likely, and we shall note, probably in the not far distant future, baneful effects from its abuse, and gleditschine inebriety will be added to the list of toxic neuroses.

It has been stated by Dr. Seward that "he has observed antidotal effects to gleditschine from morphine," and Dr. W. H. Mitchell asserts that "it is a direct antagonist of morphine and opium, ten drops of the two-per-cent. solution neutralizing one grain of morphine or six of opium." Experiments on rabbits now being made by myself will, it is to be hoped, sustain these statements.

The two-per-cent. solution can be obtained from Messrs. Lehn & Fink, New York, at a present wholesale price of six dollars an ounce.

I shall be pleased to receive and report the experience which any reader of your journal may have on this subject.

J. B. Mattison.

DR. CORNING'S METHOD OF GENERAL ANÆSTHETIZATION

266 Madison Avenue, *October 25, 1887.*

To the Editor of the New York Medical Journal:

Sir: Dr. J. Leonard Corning omitted what seems to me to be a very important point in his letter concerning a method recently devised by himself for facilitating the "rapid and safe induction of anæsthesia," published in your issue of the 22d inst. As the doctor states, he first tried the method upon a patient of mine in the Manhattan Eye and Ear Hospital, upon whom I was about to perform an iridectomy preliminary to cataract extraction. A large number of the hospital staff and other physicians were present, all of whom seemed pleased with the ease and quickness with which the patient was anæsthetized, as well as with the rapidity of his recovery from the effects of the ether as soon as the tourniquets were removed from his thighs.

Every person who gives ether frequently now and then meets with a case in which alarming symptoms suddenly show themselves. The patient stops breathing and becomes livid or turns black in the face, and it is painfully evident to all present that something must be done, and done quickly, or the patient will die.

The practice is to pull forward the patient's tongue, to lift up his lower jaw, to try to induce breathing by making pressure at intervals upon his diaphragm or chest, or by turning him upon his side. Sometimes the galvanic battery is applied if at hand, and sometimes, though in very exceptional instances, the patient does actually die.

Now, if on such an occasion we could suddenly let into the general circulation about one third of the entire blood which had been dammed up in the reservoir of the limbs, and was, consequently, entirely free from the contaminating effects of the anæsthetic, it would instantly mix with the blood which was supersaturated with the ether, and thus, diluting it, would probably do away with all alarming symptoms at once. That is what would practically occur on removing the tourniquets from the limbs.

David Webster.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 12, 1887.

Gastrotomy for the Digital Exploration of the Œsophagus and the Removal of a Foreign Body; Recovery.—Dr. William T. Bull read a paper with this title (see page 481).

Dr. L. A. Stimson asked the reader if he had been able to determine why the body lodged just where it did in the œsophagus.

Dr. Bull replied that the position of the body was determined by the presence of a concentric projection or collar of mucous membrane, which was situated about an inch and a half above the pyloric orifice; the body was lodged just above this constriction.

Dr. R. F. Weir asked if the narrowest part of the œsophagus was not usually situated higher up.

Dr. Bull said that it was, but that if a foreign body succeeded in passing the point opposite to the arch of the aorta, it was usually arrested at the position described in his case.

Dr. Weir believed that the caliber of the œsophagus was larger than was generally represented, especially by French writers. He had passed bougies having a diameter of twenty-one, twenty-two, and, in one instance, twenty-three millimetres.

Dr. Stimson thought that, while the method employed had been in the highest degree judicious and successful, it seemed possible that it might sometimes be found as difficult to push the foreign body upward as to push it downward, under circumstances, that is, in which the impaction is due to the shape rather than to the bulk of the body, to its length and angularity rather than to its breadth. In the present case the stone could not be forced downward through the lower part of the œsophagus, although the finger, which was as thick as the stone, could be passed upward to it. It is conceivable that in pushing a long body upward its upper end might diverge from the axis of the canal and catch in the mucous membrane in such a way that every effort to dislodge it from below by pressure on its lower end would only make its fixation more firm. In withdrawal by an instrument which grasped the anterior end of the body this difficulty was less likely to be encountered, although, of course, the use of the forceps had dangers of its own. Experience might show that this difficulty would restrict the generalization of the method so successfully employed by Dr. Bull.

Dr. T. M. Markoe said that every surgeon who had had experience in searching for foreign bodies in the œsophagus with forceps had found that little could be accomplished. He had noted this especially after œsophagotomy. He could readily conceive how Dr. Bull failed to grasp the body with forceps. He might have feared to open them sufficiently wide through a dread of tearing the mucous membrane.

Dr. Bull thought that most foreign bodies of irregular shape, such as plates with teeth, could be removed from above by means of an instrument such as a coin-catcher. There was some danger in these manipulations, but it might be offset to some extent by care and delicacy of touch on the part of the surgeon. A sharp body could not be safely pushed upward from below, while the removal of a smooth body from above by means of forceps was always more or less risky. He had about a year before perforated the œsophagus while endeavoring to extract a horse-chestnut with forceps. If we accepted the belief that a small wound in the abdominal wall and also in the stomach could be made with a minimum of risk, why should we not perform gastrotomy at once? There was absolutely no reaction after the operation in the case reported.

Dr. Weir referred to a case reported in a foreign journal in which a patient had swallowed fragments of wood and glass with suicidal intent. Gastrotomy was performed and the foreign bodies were removed. The patient subsequently repeated the act, and gastrotomy was performed a second time with success.

Dr. Bull asked Dr. Markoe regarding the feasibility of introducing the finger through an œsophagotomy-wound as far down as the arch of the aorta. The latter replied that he had never been able to reach so far.

Dr. Wyeth said that he knew a country practitioner who, being obliged to rely upon his own resources, dislodged a pin from the œsophagus by feeding the patient with balls of corn-meal mush containing fine pellets of cotton. The mush was digested, and the cotton remained in the stomach. The patient was then given an emetic, and vomited the cotton, in which was imbedded the pin.

Dr. Sands stated that a physician had once brought to him his child, who had swallowed a nail. At the father's suggestion the boy was placed on a diet of sweet potato, and soon after he had a copious evacuation containing a mass of potato, in which was found the nail.

Nephrectomy for Cancer of the Kidney; Death from Shock.—Dr. John A. Wyeth presented a tumor of the left kidney which he had removed by the lumbar incision. The patient was a woman, aged thirty-eight, who had suffered from urinary trouble for five years. She had at intervals of a few weeks or months an obscure pain in the left lumbar region, followed by hæmaturia. During the past three years she had been confined to her bed, and last May she was placed under his care through the courtesy of Dr. McWilliams, of this State. Upon examination, a tumor of the left kidney was detected, which Dr. Wyeth thought was due to cystic degeneration of the organ, resulting from calculous pyelitis. The patient was reported to have passed calculi, but none had ever been seen by her medical attendant. Dr. Janeway saw her in consultation and thought that the tumor was a neoplasm, although he declined to give a positive opinion as to its character. Nephrectomy was performed in May. The usual lumbar incision was made, and, as there was only three inches between the last rib and the crest of the ilium, a transverse incision was made, the latter being carried down to, but not through, the peritonæum, which was folded back toward the median line. There was no hæmorrhage of consequence. The mass was easily separated and the pedicle was secured with an elastic ligature, which was applied entirely by the sense of touch. The vessels were then divided and ligated. The operation lasted two hours, and the patient died of shock fifteen hours later. There was no autopsy. The mass measured about ten inches in its smallest circumference and was eight inches in length. A microscopical examination showed that the growth was a medullary carcinoma, which grew from the upper third of the organ. Dr. Sands asked regarding the condition of the other kidney. Dr. Wyeth said that it was inferred that it was healthy, as the patient passed a fair amount of urine (which could not have come from the organ destroyed by disease) which contained only a trace of albumin and no casts. The sound kidney could be felt during the operation.

Dr. Bull suggested, from the relation of the neoplasm to the upper extremity of the kidney, that it might have sprung from the supra-renal capsule.

Dr. Wyeth thought that a careful examination of the specimen would show the intimate relations of the tumor to the kidney itself.

Dr. C. K. Briddon called attention to the fact that the occurrence of hæmaturia would seem to have proved that the kidney itself was affected.

Dr. Weir asked if laparotomy would not have been a safer and more rapid procedure, considering the size of the tumor.

Dr. Sands agreed with Dr. Weir's criticism. He thought that the anterior section would certainly give more room than the lumbar incision. In the case of a suppurating kidney, however, the objection might be raised that, if the former method were adopted, the pus might escape into the peritoneal cavity.

Dr. Briddon cited a case in which he had tried to remove a tumor, larger than the one exhibited, through a lumbar incision, and was obliged to abandon the attempt and to perform laparotomy; it was easily removed by the latter method. He suggested that it might not be a bad idea to make a lumbar, in addition to the abdominal, incision, since the former could be utilized for drainage.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

(*Continued from page 471.*)

The President, Dr. J. Solis-Cohen, in the Chair.

Notes on Three Cases of Leprosy, with Presentation of One Case.—Dr. Van Harlingen read the following paper:

Case I. *Anæsthetic Leprosy of Mild Type.*—(I am indebted to my friend, Dr. Curtin, for the opportunity of seeing this case, and of following the course of the disease for a year or more.) Señora R. was first seen by me on February 1, 1883. The patient, a native of Cuba, had only been in this country a few months, and could not speak English. She was a stout, lymphatic person, about fifty years of age. Her history, obtained with some difficulty, was essentially as follows: She had always enjoyed good health until about a year previously, when she was suddenly attacked by vertigo and syncope, followed by a general swelling, affecting chiefly the head, arms, and trunk. A little later, small macular lesions began to show themselves, at first over the forearms, and afterward elsewhere. The lesions, at first brownish-red, grew in size and became annular, leaving a dead-white condition in the center. Usually beginning singly, the lesions coalesced as they grew larger. The patient's general health had not failed materially.

On examination, the eruption was found to affect the following regions: face, neck, shoulders, back, flexor surface of arms and legs, with some few lesions on the feet. They were macular and maculopapular, most of them being raised above the skin, rather sharply defined, of a dusky reddish-brown color, smooth, and without scales. The smaller lesions, from the size of a pea to that of a finger-nail, were papular, raised above the skin, and sensitive to the prick of a pin. The larger lesions, from the size of a half-dollar to that of the hand, showed a depressed center of smooth, abnormally white skin with a brown, raised margin, giving them a ringed appearance. In some places these rings intersected each other, giving a figured or gyrate appearance. Where the skin was depressed and white it was anæsthetic to a greater or less degree. In places a needle could be thrust in half an inch or more without the patient showing any sign of pain. The tips of the patient's ears showed some slight infiltration and thickening, and the nose was somewhat broadened; but the face had not at that time become so disfigured as to present the characteristic leonine appearance, though the surface was mottled with disease patches. The hands were rather puffy and of a deep brownish-red color, and covered with tubercular lesions. Anæsthesia existed to an extreme degree; a pin could be driven deeply into the back of the hands without causing pain. There was no change in the palm of the hand, nor any referable to a diseased condition of the ulnar nerve, although a general numbness of the finger-tips occurring at times was complained of. The feet were somewhat puffy, but no distinct disease was observed here. The eyebrows and other hairy parts seemed unchanged. There were no general symptoms, excepting languor with occasional headache. There was no history of chills and fever, or of any eruption of blebs.

The patient was at first ordered to take Fowler's arsenical solution in small doses. This was soon changed to sulphate of strychnine, of which she took one sixteenth of a grain thrice daily for some months, and afterward one eighth of a grain of nux vomica with two grains of quinine four times a day. The affected parts were rubbed daily with a mixture of three parts of oil of cashew with five parts of oil of almonds. Under this medication the patient's general condition improved markedly. She suffered with photophobia, however, and other eye symptoms, including the appearance of a small tubercle near the iris. At this time Dr. Harlan saw her with me. Subsequently she suffered from some mental disorder, for which Dr. Curtin attended her. I did not see her from February, 1885, to January, 1886. She had been in Cuba in the interval, and was in a decidedly worse condition than when I saw her last. The face had begun to assume the peculiar leonine expression due to infiltration with leprous matter at various points. The nose was markedly broadened. New superficial dusky red nodules appeared here and there, especially on left upper and lower eyelids. On the arms and forearms the white anæsthetic patches were sharply defined, and looked as if red-hot coins of various sizes had been laid upon the skin and had burned in. The left arm was the worst, and most highly anæsthetic. The hands showed the most changes. The fingers were swollen greatly, cylindrical, curved, and claw-like. Numerous tubercular elevations could be seen scattered over the backs of the hands. A lentil-sized subcutaneous nodule of gristly consistence could be felt under the skin on the back of the left wrist. The ulnar nerve could not be felt. Touch normal. The feet showed deposits similar to those on the hands. They were not, however, swollen nor markedly misshapen. The eyes looked worse. There was considerable congestion of the conjunctiva with apparently incipient deposits of leprous matter. Examination of the oral cavity showed nothing abnormal, though her voice was hoarse. The patient was once more placed under treatment, at first taking one third of a grain of extract of nux vomica thrice daily, and afterward a pill of strychnine, arsenious acid, and quinine. An ointment of pyrogallic acid, at first of the strength of thirty grains and afterward a drachm to the ounce, was prescribed. Ichthyol was also used locally, but the patient objected to the smell and use of the drug, and soon after disappeared from observation.

Case II. *Mixed Tuberculous and Anæsthetic Leprosy of Moderate Type accompanied by Marked Eye Symptoms.*—Mrs. P. M., forty years of age; born in Pennsylvania of German parentage; always enjoyed good health. Married at the age of seventeen to a native of Brazil. She lived for ten years with her husband in Philadelphia, bearing him two children, now living and healthy. In 1873, fourteen years ago, she went with her husband to Brazil, where she settled in Para, while her husband lived in a small town six days' voyage up the Amazon. She only saw him occasionally, but after six months joined him, and bore a third child while there—the subject of our Case III. She returned with her husband to Para in a year or so, and they lived there some years, the husband being captain of a steamer trading to San Antonio, at the headwaters of the Amazon, for India-rubber. About three years ago, she and her family being at that time in good health, she made her first voyage with him up the Amazon to San Antonio. The patient stayed at this place some days, and on one occasion took dinner with a party of natives from the interior. The strange and peculiar food eaten on this occasion made the entire party sick, and our patient attributes all her subsequent misfortunes to this indiscretion. About fifteen days later her husband was seized with the symptoms of beriberi, and died in a few weeks. While he was ill our patient began to observe the first symptoms of the disease, or what she supposed to be such—general nausea and loss of appetite, dizziness and somnolence, pain in the hepatic region, swelling of the feet, and a sort of intermittent fever. These symptoms lasted for some months. Meantime other external symptoms began to show themselves. Blotches of a whitish color appeared upon the face, which disappeared, and were followed by an increase of pigment over the face and front of legs. Occasional attacks of redness and swelling of the skin, resembling erysipelas, were also observed. Blebs showed themselves on the soles of the feet, at first one or two at a time, subsequently in crops; crusts or scales formed on the edges of the feet, especially about the heels, and, dropping off, left ulcers behind, which, with the blebs, healed spontaneously. The toe-nails were affected; one nail fell and was reproduced five times. Loss of hair occurred to a considerable degree during this period, and the patient's face became disfigured and deformed to a marked degree, so that, when she came to this country from Brazil, about two years ago, she was scarcely recognizable.

In the early part of 1886 this patient was sent to me, with her daughter, by Dr. Charles Turnbull, to whom I am indebted for the opportunity of examining and studying the case. Her condition at that time (she had been four months in Philadelphia) was much improved, but so marked and characteristic was the disfigurement that I recognized the character of the disease almost at once by the peculiar *facies.* This presented the peculiar leonine expression so often described by authors. There were marked deposits in the eyebrows, which were thick and heavy. The tissues of the nose were much thickened, and the nose was much broader. The lips were much thickened and board-like to the touch, and were slightly everted. There had been a sore on the upper lip, but this had healed up when I first saw her, and there were no ulcerated surfaces, either at this time or subsequently. The ears were much enlarged and deformed, the lobes being particularly huge and misshapen. The eyelids were thick and infiltrated, the eyebrows and lashes mostly wanting; there was congestion of the conjunctivæ on both sides, and a small opaque patch on the upper segment of the cornea on the left side. There was brown discoloration on the shoulders and arms, with some anæsthetic patches. The hands were puffy, and the fingers thickened and cylindrical. The feet were in the same condition. There were not many anæsthetic patches on the lower extremities.

The patient was ordered a quarter of a grain of extract of nux vomica, with a grain of quinine, three times a day. Under the use of this medicine she improved slowly, but steadily, for some time. She seemed brighter and in better spirits, her voice less hoarse, and her condition improved. Her face, however, continued to show signs of some progress in the disease. On December 3, 1886, when she had been eight or ten months under treatment, the nose was broader, especially at the alæ, and there were new deposits in the skin covering the chin. The tongue, now examined carefully, was markedly thickened, with deep fissures, and a smooth, grayish, board-like surface. It had been chapped and painful, but was now better. During the previous month the eye-changes had become more noticeable. There was some opacity of the cornea, with several well-marked nodules of leprous tissue in the edge of the iris, and projecting into the anterior chamber of the eye. The patient could only distinguish light from darkness with this eye. The treatment was continued until toward the close of the year, the patient declaring that she was constantly improving, but no very perceptible change being manifest, excepting that the hoarseness had disappeared, and her voice was clear, and the feet were not so swollen.

On December 22d the patient was ordered two grains of salicylate of sodium, with three grains of potassium iodide. Within a day or two she was attacked by high fever, with a copious eruption of petechial spots. Fearing this might be due to the medicines, both of which are known to produce such an effect, the dose was reduced one half, under the use of which she improved. About this time the patient was sent to St. Joseph's Hospital, where her general health improved greatly under careful nursing and attendance. Suspicion having been aroused as to the nature of the disease, she was dismissed. Since that time she has been living with relatives, and lately has found employment in a small hotel. Her general health has improved, although she has lost flesh. The leprous deposits about the ears and face are more marked than before, and I am inclined to think that the utmost that can be asserted is that the patient is losing ground very slowly. She has been taking,, since the beginning of the year, a solution containing one twentieth of a grain of sulphate of strychnine, with two grains of quinine, thrice daily.

Case III. *Marked and Severe Anæsthetic Leprosy in its Earlier Stages.*—Anita M., daughter of the patient in Case II, aged twelve years and a half, was seen for the first time a year and a half ago. No history could be obtained, excepting that the disease began about the same time as that of the mother. Attention was first drawn to the child by the appearance of a well-marked raspberry-colored circinate eruption on her face, resembling most closely that of erythema multiforme. Only a few of the lesions were at this time decidedly anæsthetic. On stripping the child, circinate lesions could be seen over the body and limbs. These patches were whitish in the center, slightly sunken, and surrounded by narrow, brownish-red, slightly elevated borders, which had intersected at many points, forming large gyrate figures. The patches on the lower limbs were all more or less anæsthetic, and did not seem to follow the distribution of any particular nerve, but to involve large irregular areas.

The patient was placed upon the use of extract of nux vomica and quinine, and afterward, in addition to this, salicylate of sodium in five-grain doses. No very marked change occurred during the summer of last year, but with the approach of winter the child's general condition became markedly worse. She suffered from conjunctivitis, and then from various nervous symptoms, prominent among which was an attack of temporary loss of power in the lower limbs. The little patient's aspect began to change from this time, the lesions in the face taking on a more decided tubercular character, and her aspect being dull and stupid. The anæsthetic areas became more marked, particularly those connected with the ulnar nerves. The hands and fingers became numb, and gradually the fingers, particularly the ring and little fingers, became crooked, and nearly immobile, showing precisely the appearance known as *mains en griffe.* At one time she was seized with pains in the groins, running down the limbs and confining her to bed several days. At another time she had rheumatoid pains in the various joints of the lower limb; and at another swelling in the left hand. There was a cardiac mitral murmur. Chorea followed these attacks in May last, for which I consulted Dr. Mills, who prescribed Fowler's solution, five minims, with four minims of extract of conium, thrice daily. Under the use of this combination the little patient's general health improved, and the choreic symptoms disappeared by the middle of August. The disease, however, has continued to make steady progress. The nodules on the face have somewhat enlarged, and the tongue has shown signs of involvement. The ulnar nerves on both sides can be distinctly felt from the elbow to the shoulder, rolling like large whipcords under the skin. They are quite painful to the touch.

I have brought forward the notes of these cases with the purpose of pointing out the peculiarities of leprosy as it presents itself in the earlier and comparatively mild stages of the disease, and with the view of assisting, in some degree, in familiarizing us with its most numerous symptoms.

The matter is one of practical importance, for there is no question that the disease is on the increase in this country, and before long we may be called upon to decide what course is to be taken for the protection of the community, and, not less important, the care of the unfortunate victims of this disease.

In addition to the fact that centers of leprosy exist in Canada, in Minnesota, in Louisiana, and in California, several cases have been reported as occurring *de novo* in American soil in persons who have been born in and have never left the country.

Under these circumstances it behooves each member of the profession to ascertain and make himself familiar with the appearance of leprosy, so as to be able to recognize it at sight, to make up his mind with regard to the contagious character of the disease, and, finally, setting aside all sentiment and ignorant fear of the malady, to do what can be done for its removal.

I question if, at present, these patients of mine would be received by any hospital in this city were the nature of the disease known. I question if there is any refuge to which these poor lepers can resort when the time comes that those around them shall be aware of the affection from which they suffer. In the face of a disease which has for ages been accounted one of the most dreadful plagues, it is not surprising that uninstructed persons should be struck by blind panic. But it is the duty of our profession to instruct the public in this respect.

Leprosy is, indeed, contagious in my belief and in that of the majority of observers; but contagious in a slow and uncertain manner. Therefore we need have no such fear in approaching it as we should have in coming in contact with syphilis, much less any of the contagious exanthemata.

(*To be continued.*)

NEW YORK STATE MEDICAL ASSOCIATION.

Fourth Annual Meeting, held in New York, September 27, 28, and 29, 1887.

The President, Dr. Isaac E. Taylor, of New York, in the Chair.

Lupus Serpiginosus of the Cervix Uteri and of the Pudenda.—This was the main subject of the president's address, but, before entering upon it, he made a few general remarks, alluding to the duties of members in contributing to the further prosecution of the objects of the association and to the gratifying success which had attended their efforts hitherto, particularly as exemplified by the library, which now contained 4,600 volumes. Proceeding to the special subject of his address, the president related the history of the case of a woman in whom the disease began in the cervix uteri and extended to the vulva, manifesting itself in the hypertrophic form. It terminated fatally in about two years. A cast of the external genitals was shown. Lupus most frequently appeared on the face, and rarely attacked the genitals in women. During his connection with various hospitals in New York, since the year 1839, he had not seen in any of those institutions a single case of lupus of the genitalia, but he had seen many syphilitic affections resembling it. A special bacterium as distinctly recognized as that of tuberculosis had not been demonstrated to bear a causative relation to lupus. Women affected with lupus had not communicated it to their husbands, and he had failed in an attempt to inoculate it. No one pathological or histological feature had been shown to be characteristic of the disease. Clinically, cancer differed from lupus in that it never healed and left the patient apparently well for a time. The treatment of lupus was chiefly local, sometimes surgical, and depended entirely upon the form which the disease assumed. Where there was a hypertrophic condition, forming a tumor, its removal was indicated. An important point was to avoid doing injury to the surrounding or underlying sound tissues. Eventually lupus of the genitalia would end in death, and the suffering and disfigurement were even greater than when the face was affected.

The Use of Hot Water in Surgery.—Dr. Theodore R. Varick, of Jersey City, read a paper on this subject (see page 431).

Bichloride of Mercury; its Use and Abuse.—Dr. Charles S. Wood, of New York, considered the use of bichloride of mercury in phthisis, syphilis, and Bright's disease. The drug could not be introduced into the system with the hope of destroying the germs of disease; its beneficial effects had another basis. In a number of cases the author had known it, with other measures, to check the progress of Bright's disease, diminish the quantity of albumin in the urine, and enable the patients to follow their pursuits comfortably. He administered it in doses of from one thirtieth to one twentieth of a grain three times a day. Perhaps no greater boon had been bestowed by modern surgery than the discovery of the principle upon which the use of antiseptics was based, but this should not lead us to use the bichloride too frequently or without due care.

Hip-joint Disease.—Dr. Nathan Jacobson read a paper in which he said that the name hip-joint disease was unfortunate, as the idea which it conveyed of an unusual joint disease was unfounded. The different opinions entertained regarding the origin of hip-joint disease were reviewed. Struma was an indefinite term. If the disease was tubercular in origin, the tubercle bacillus should be shown. He thought traumatism was usually the exciting factor; a tubercular focus might exist and not become manifest until awakened by an injury. The histories of two cases were read, one illustrating treatment in a given class by rest, the other treatment by exsection. In the latter there were changes at the apices of the lungs, which disappeared after relief of the joint affection by exsection. The *Bacillus tuberculosis* was not looked for at the time of the operation, but it was absent in subsequent secretions of the wound. Whether the lung trouble was independent of the hip disease was a matter of conjecture, but he believed the joint affection might aggravate a tubercular condition of the lungs. No treatment could be laid down which would be applicable in all cases. When rest failed to relieve, the pain increased, and visceral complications developed, one should operate, and not wait for rupture of the joint capsule. The presence of pulmonary tuberculosis was an indication rather than a contra-indication for the operation.

Dr. E. M. Moore, of Rochester, commended the paper and said that he was still firmly of the belief that traumatism, not tuberculosis, was the prevailing cause of hip-joint disease.

Discussion on the Management of Compound Dislocation of the Ankle Joint.—Dr. E. M. Moore opened the discussion with a lengthy paper, and showed by quotations the difference of opinion which had prevailed and which still prevailed, particularly with regard to conservative treatment and treatment by amputation with the view only of saving the life of the patient. The tendency to conservatism was becoming more manifest, particularly among English surgeons, but it was not advancing so rapidly as it should.

The author showed a plaster cast of the foot and ankle of a woman, illustrating the excellent results obtained by a friend who had treated the compound dislocation on the conservative plan. An ideal result had been obtained, which provoked the inquiry whether such should not be the rule rather than the exception. In five cases of compound luxation of the ankle joint treated by the author, death had resulted in none. In most of his cases he had exsected the astragalus, although it was not fractured. In one of his cases the bandage interfered with the circulation and caused gangrene, and the foot had to be amputated. All the patients recovered with a useful member. If it were in his power to carry out antiseptic measures, it would be a bad case indeed in which he would resort to amputation before trying to save the member. Amputation could be resorted to later should the case progress unfavorably. He expressed his preference for Syme's operation when practicable and the limb could not be saved.

Dr. Uri C. Lynde discussed that part of the subject relating to the question of amputation on the basis of others' writings and his own practice. The ancients were agreed and definite in their advice on the treatment of compound dislocations of large joints—Reduce and kill, or leave unreduced and let die. Regarding this accident at the ankle joint, a few modern writers had been specific enough to be of some value; others, if they had intended to commit themselves, had not succeeded; while no inconsiderable number had succeeded in giving poor advice. The speaker divided the cases into two classes according to the severity of the injury. In the second class were some cases which required immediate operation, and others which did not.

If there was only contusion confined to one side of the ankle and not covering a large surface, he would not amputate, although some sloughing would probably take place. But if the contusion was extensive, and existed on both sides of the ankle, especially if the injury to the bones was severe, it would be our duty to amputate at once. If there was rupture of the posterior tibial artery without extensive injury of the bones, the case should be treated conservatively; but if the bones, including the astragalus, were comminuted, amputation would be proper.

It should be remembered that modern surgery had done more to render amputation safe than to render conservative measures safe. Should one make a mistake, it ought to be on the side of conservatism.

Dr. Joseph D. Bryant, of New York, read a paper in which he dealt with the question, If amputation is to be performed, at what point should it be made to render the stump most useful, the risks to be encountered being equal? He said that in his opinion only two methods were to be considered—namely, Syme's amputation, and amputation at the junction of the middle with the lower third of the leg. Syme's amputation should be selected in all cases where the vitality of the soft parts would warrant a reasonable belief that a serviceable stump could be procured by the usual flap procedures. Otherwise amputation at the junction of the lower and middle thirds should be practiced. Leaving the malleolar expansion made it more difficult to fit an artificial foot. He had obtained the opinion of some of the leading makers of artificial limbs regarding the point at which amputation should be performed to afford the easiest and best-fitting apparatus, and all had spoken unfavorably of Pirogoff's amputation.

Dr. Charles W. Brown said that bone should be removed when it protruded considerably and could not be returned to its normal position without further injury to the soft parts, or when a portion of the periosteum had been removed, or when the head of the bone had been broken or crushed. As to the amount of bone which should be removed, much would depend upon the nature of the injury.

Dr. Frederic S. Dennis, of New York, considered the question, What dressing and after-treatment will conduce to the best result with least risk to the patient? He assumed that it had been decided in the given case not to employ amputation.

Where conservatism was to be resorted to it might be necessary to do partial resection, or avoid all operative interference. If partial resection was done, the foot, ankle, and leg should be washed, scrubbed, shaved, and irrigated before the wound was examined. The original wound could then be enlarged, the interior of the joint thoroughly explored, a counter-opening made, and all loose pieces of bone, cartilage, and foreign bodies removed, loose tendon, fascia, or muscle being cut away, and the joint thoroughly irrigated with warm bichloride solution. A rubber drain should be carried directly through the cavity of the joint. Some surgeons thought drainage could be effected without making a counter-opening. If in reducing the dislocation there was resistance by contraction of the tendons, they should be divided subcutaneously. The sort of splint to be used would depend upon the special circumstances of the case. The questions of fracture, of contusion of the soft parts, of the size of the wound, of the age of the patient, and of other conditions would influence the surgeon in the selection of a dressing. In the majority of cases a plaster-of-Paris bandage should be employed. The danger of having the bandage too tightly applied could be prevented with cotton. Finally, we should use irrigation, iodoform sprinkled over the wound, a thin strip of iodoform gauze over the wound, a double bandage wet in bichloride solution on the ankle and leg, and over this a piece of gauze dressing, a layer of borated cotton held by a bandage, over which a dressing of plaster of Paris could be snugly applied. The inner dressing would afford ample elasticity to prevent constriction of the joint by inflammatory swelling. Strips of iron might be used to strengthen the plaster splint.

At the end of three days a fenestra might be cut at the side of the drainage-tube.

Methods of Applying Cold.—Dr. Henry D. Didama, of Syracuse, after some general remarks on antipyretics and methods of applying cold, illustrated the method which he had practiced with the least amount of expense and trouble, and which had given good results. A rubber cloth was laid upon the mattress, and upon one side of this a pillow and a folded cloth to extend to the thighs of the patient; these were wet in cold water. Over these was spread a second rubber cloth, covered by the bed sheet, upon which the patient lay. When it was necessary to renew the cold, other cloths were placed between the rubber sheets at the other side, and the patient was lifted by wooden bars rolled into the sheet upon which he lay.

Gallstones.—Dr. Robert H. Sabin made the point in this paper that gallstones formed only in an acid condition of the system, and that the preventive treatment consisted in rendering the system alkaline as indicated by the alkalinity of the urine. This change was effectually and cheaply brought about with bicarbonate of sodium. To himself, a subject of gallstones, and to others, he administered a teaspoonful of the drug in a tumblerful of water drank at intervals during the day. He presented a number of stones, which looked much like hulled peanuts, which a female patient was in the habit of passing, as she said, by the teacupful.

Recent and Neglected Cases of Dislocation of the Radius and Ulna upward and backward upon the Humerus.—Dr. Uri C. Lynde said that these dislocations when recent were easily reduced. Either flexion of the forearm, or flexion with the knee in the bend of the elbow, or extension might be practiced with entire success. But the older the dislocation the more difficult the reduction. The author attempted to give the reason for this by describing the anatomical relations of the displaced parts and the changes which had taken place with the lapse of time. In these cases to reduce by overextension was dangerous to the blood-vessels, which had become more or less contracted and had perhaps formed adhesions. Flexion could be practiced with safety, but more easily if the tendon of the triceps was divided. The danger of breaking the coronoid process need hardly be taken into consideration. Some surgeons perforated the coronoid process by drilling subcutaneously, in order to weaken and fracture it, and thus make flexion possible.

Dr. E. M. Moore believed that overextension would reduce the dislocation in old cases better than any other method. He doubted whether there was much danger to the vessels and nerves.

Nosography.—Dr. J. W. S. Gouley, of New York, read a part of a work, yet in manuscript, which he had prepared on nosography.

(To be concluded.)

Book Notices.

Differential Diagnosis of the Diseases of the Skin for Students and Practitioners. By Condict W. Cutler, M. S., M. D., Assistant Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out-door Department, etc. New York and London: G. P. Putnam's Sons, 1887. Pp. viii-139. [Price, $1.25.]

The author of this book, already favorably known by his "Manual of Differential Medical Diagnosis," has creditably performed a difficult task. It is not easy to learn the diagnosis of dermatological diseases without having actual cases for study.

But, with the admirable atlases of Dr. George H. Fox and Dr. Duhring and this little book, it is possible for any one to overcome many of the difficulties, even without living specimens. The form of parallel columns is employed by the author to indicate the points of differential diagnosis. For this he is to be commended, as it is the very best form to employ. By a good system of cross-references the bulk of the book is greatly reduced without injuring its usefulness. The work shows a great deal of painstaking care, the wise use of standard text-books, and the exercise of critical judgment guided by practical experience. It is very full, and nearly, if not all, the diseases of the skin receive due consideration. We heartily commend the book.

Surgery: its Theory and Practice. By William Johnson Walsham, F. R. C. S., Assistant Surgeon to St. Bartholomew's Hospital, etc., London. With Two Hundred and Thirty-six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix-9 to 655. [Price, $3.]

This work seems to be designed simply as an aid to undergraduates in obtaining a general insight into theory and practice while they are becoming familiar with surgical details in practical work in hospitals. The details of operative and minor surgery and bandaging are briefly discussed, and the rarer injuries and diseases are only mentioned or entirely omitted, while special prominence is given to the groundwork of the science, and to subjects with which every student should become acquainted. It is divided into six sections, treating of surgical diseases and injuries with reference to pathology, special tissues, and regions. About four pages at the end of the book are devoted to amputations. The style is too concise to form pleasant reading, but this can be tolerated, as by its compactness it will save the student much time—to him a great desideratum. For the advanced student and the practitioner a more complete treatise is necessary, because too many important points are omitted to render this one a safe guide in practical operative work.

GENERAL LITERARY NOTES.

A "Cyclopædia of Diseases of Children," to be published by the J. B. Lippincott Company, of Philadelphia, is in preparation, with Dr. J. M. Keating as the editor. It is expected that the first volume will be ready in the autumn of 1888.

Among recent foreign publications we note the following:

F. Alcan, Paris.—J. Delbœuf, "De l'origine des effets curatifs de l'hypnotisme." (1*fr.* 50.) —— F. Despagnet, "De l'irido-choroïdite suppurative dans le leucome adhérent de la cornée." (2*fr.*)

J. B. Baillière & fils, Paris.—Sir H. Thompson, "Traité pratique des maladies des voies urinaires." 2d ed., transl. by Campenon and Le Juge; preceded by the same author's "Leçons cliniques sur les maladies des voies urinaires," transl. by J. Hue, E. Gignoux, and E. Le Juge. (20*fr.*) —— H. Bourru and P. Burot, "La suggestion mentale et l'action à distance des substances toxiques et médicamenteuses." (3*fr.* 50.) —— A. Herzen, "Le cerveau et l'activité cérébrale au point de vue psycho-physiologique." (3*fr.* 50.) —— O. Du Mesnil, "La variole à Paris." —— V. Vétault, "Étude médico-legale sur l'alcoolisme." (4*fr.*)

Bureaux du "Progrès médical," Paris.—H. Arnaud, "Contribution à l'étude clinique de la surdité verbale." (1*fr.* 25.) —— J. Seglas, "La paranoia." (1*fr.* 25.) —— M. Baudouin, "Traitement des kystes hydatiques du foie." (1*fr.* 25.) —— J. Christian, "Recherches sur l'étiologie de la paralysie générale chez l'homme." (1*fr.*) —— H. Rendu, "Contribution à l'histoire des monoplégies partielles du membre supérieur." (1*fr.*)

G. Masson, Paris.—E. Chautemps, "L'Organisation sanitaire de Paris; hôpitaux d'isolement, voitures d'ambulance, stations de désinfection." (5*fr.*) —— A. Fournier, "Prophylaxie publique de la syphilis." (1*fr.* 50.) —— P. de Sède, "Conférences sur l'histoire naturelle à l'usage des candidats à la licence et des étudiants en médecine." (8*fr.*) —— G. Carlet, "Précis de zoologie médicale." 2d ed. (7*fr.* 50.) —— G. Sée, "L'Antipyrine." (1*fr.* 50.)

W. Braumüller, Vienna.—I. Neumann, "Atlas der Hautkrankheiten," part 6. (10*M.*)

H. Costenoble, Jena.—P. Mantegazza, "Die Physiologie der Liebe." Transl. by E. Engel. (4*M.*) —— P. Mantegazza, "Die Hygiene der Liebe." (4*M.*) —— P. Mantegazza, "Anthropologisch-kulturhistorische Studien über die Geschlechtsverhältnisse des Menschen." (7*M.*)

G. Jovene, Naples.—G. Monaeo, "Manuale di medicina legale." (10*l.*)

F. Vallardi, Rome.—D. Barduzzi, "Dermatologia propedeutica." (4*l.*) —— G. Strambio, "Trattato elementare di anatomia descrittiva." 2d ed. (6*l.*)

BOOKS AND PAMPHLETS RECEIVED.

Ovarian Tumors and Remarks on Abdominal Surgery, with the Result of Fifty Cases. By Edward Borck, A. M., M. D., Professor of Surgery, etc. St. Louis, Mo. Second Revised Reprint Edition.

Local Treatment of Diseases of the Bronchial Tubes and Lungs. By Benjamin F. Westbrook, M. D., etc. [Reprinted from the "Medical News."]

Persistent Vomiting during Labor relieved by Anæsthesia. By Samuel C. Busey, M. D., of Washington, D. C. [Reprinted from the "Journal of the American Medical Association."]

Transactions of the American Otological Society, Twentieth Annual Meeting, Pequot House, New London, Conn., July 19, 1887. Vol. IV, Part 1.

First Annual Report of the Ophthalmological Department of the State Hospital at Norristown, Pa., for the Year 1886. Ophthalmologist, Charles A. Oliver, M. D. [Reprinted from the "Seventh Annual Report."]

Transactions of the Medical Society of the State of West Virginia. Twentieth Annual Session, held at White Sulphur Springs, July 13, 14, and 15, 1887.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE T. JACKSON, M. D.

The Study of Skin Diseases illustrating the Doctrines of General Pathology is the title of a series of interesting papers by Hutchinson in the "British Medical Journal." As illustrations of the infectiousness of inflammatory processes he cites erysipelas, eczema, psoriasis, and ringworm—all of which show a tendency to spread more or less rapidly at their borders; some, such as lupus and syphilis, are serpiginous in their course. Another mode of spreading is by "satellites," deposits in the skin at a distance from the original center, as illustrated by *squirrhe en cuirasse*, brought about by the agency of the lymphatics. This is also seen in lupus. Microbes are regarded as one of the elements of contagion, but not as an essential one. Blood-transmission is active in some cases, as in lupus in childhood, which sometimes becomes widely disseminated as a general eruption. Eczema is at times, when it becomes general, another illustration of blood infection, especially in children where it starts from a local eczema capitis, or in elderly people where it begins in an eczema rubrum of the leg. At the same time it must not be forgotten that eczema may become general from constitutional causes. Where accurate symmetry is marked, we may suspect some deeply placed constitutional cause, such as blood infection. Instances of this are lupus erythematosus, xanthelasma, some forms of nail disease, and, possibly, psoriasis. The symmetry may be due to the same quality of soil on the two sides of the body.

Raynaud's disease is a condition dependent upon functional disturbances of the circulation, which give rise to blueness and, possibly, death of certain parts, which admits of infinitely varying degrees of severity, and to which many thousands of people are liable in its slighter form. Its causes are of nervous origin, and depend upon the influence which the sensory and vaso-motor nerves exert upon the local blood-supply. It resembles frost-bite somewhat, and we know that one person is far more liable to that trouble than another. So, as predisposing causes of Raynaud's disease, we have inherited peculiarity, malaria, exposure at some former time to severe cold, any exhausting disease, and disturbances resulting from the sexual functions. It comes at a time when the sexual functions are most active, and is often seen in hysterical women who are injuriously influenced by menstruation, and in men who suffer from nocturnal emissions. Xeroderma and ichthyosis are examples of hereditary or family diseases which may affect all the offspring of two parents, neither of whom manifests any tendency to the same. Zoster and herpes are neurotic diseases. Herpes of the pharynx and palate is peculiarly prone to follow syphilis, and may be mistaken for a return of syphilitic sore throat. These two diseases may affect the viscera. Morphœa is also dependent upon nerve influence. It may be localized or general, and may affect cellular tissue, muscles, and bone, together with the skin.

The study of skin diseases should be useful in teaching clinical analysis, and it is probable that most of the maladies to which we have given separate names are really composite results the elementary causes of which are few in number. Thus, urticaria pigmentosa is but urticaria occurring in a child with a peculiarly susceptible skin in which the wheals tend to persist, and who is liable, by virtue of the complexion (red hair, brown eyes, much movable pigment, etc.), to tan much more easily than others. Some children have skins which are made itchy by woolen clothing, and some attract fleas in a remarkable manner. If a combination of all these susceptibilities occurs, we have urticaria pigmentosa easily induced. Hebra's prurigo is not a disease *sui generis*, but results from various causes of local irritation in a person of unusual susceptibility and incapable of self-control. It may follow varicella or vaccinia, scabies or eczema, or result from the bites of lice and fleas. *Lupus erythematosus* may possibly have as causal elements an inherited peculiarity of the skin, giving a tendency to chilblains and chaps, combined with an inherited tendency to tuberculosis. In such a subject some slight local injury may set up a local process of disease which, under the law of infective spreading, may develop all the rest. The study of skin diseases is also peculiarly fitted for the study of therapeutics. (Here are given the beneficial effect of arsenic in many skin diseases, the influence of opium upon the skin diseases of the aged, and an account of some drug eruptions.) Skin diseases are also excellent for the study of the laws of heredity. It is probable that a parent's skin disease may, by transmission to the offspring, be changed into a different disease; thus psoriasis of the parent may become ichthyosis in the child.

A Peculiar Disease of the Lower Lip.—Moretti ("Monatshft. f. prakt. Dermat.") has met with a hitherto undescribed disease of the lower lip which occurs quite frequently in the region of Racanati, in Italy. It causes great discomfort, and is most frequent in men over twenty years of age. It consists in a superficial ulceration, with its long diameter parallel to the line of the mouth. Its appearance is preceded by pain, swelling, heat, and sometimes fever. It seems to be parasitic in its nature, and is contagious. It is marked by relapses year after year, and yields to antiseptic treatment.

Abortive Treatment of Furuncles.— Dr. G. Jorissene avows ("Annal. de la société méd.-chir. de Liège") that he always succeeds in aborting furuncles by inunctions of

Lanolin .... 10 grammes.
Red oxide of mercury........... 10 centigrammes. M.

This is to be rubbed in for three or four minutes once a day for small furuncles, and several times a day for larger ones. Whitlow and acne are amenable to the same treatment.

The Treatment of Psoriasis with Iodide of Potassium.—Haslund's article is a very careful and important study of the effect of potassium iodide upon psoriasis, and, incidentally, upon the general system when taken in large and continued doses. He believes ("Viertljschr. f. Derm. u. Syph.") that the iodide is equal, if not superior, to arsenic in the treatment of psoriasis; but that to get its good effect it must be given in increasing doses and for a long period. The initial dose is one tablespoonful, four times a day, of a 1-to-20 solution. For children it is well to begin with the same dose of a solution of half strength. On the third day six tablespoonfuls are given, and so the amount is increased every third day until the patient is taking the 150 grains daily. Then the strength is increased by 30 grains every third day, the same dose being continued. When reaching the stronger solutions it is best to have the patient take his medicine five or six times a day, taking two spoonfuls at a time, and to follow with a glass of water. Six hundred grains a day are about as much as need be given, though Haslund has given as much as 750.

Fifty patients in all were treated by this method, of whom forty were cured, four improved, and six remained unaffected. The duration of treatment was from seventeen days to thirteen weeks, with an average of about seven weeks. Improvement showed itself in most cases during the fourth or fifth week of treatment, and with a daily dosage of between 300 and 450 grains. The skin usually clears up rapidly when once improvement begins. Most of the patients bore the large doses well, though at the beginning and while they were taking the larger doses symptoms of iodism, such as derangement of the stomach, diarrhœa, headache, coryza, and the like, are met with. These require but a reduction of the amount for a few days, when they will disappear. One patient showed dangerous symptoms of heart failure after he had taken 33,840 grains of the salt. The continued large doses seemed rather to improve the general condition of the patients than the reverse, and most of them increased in weight.

Large doses of the iodide always increased the rapidity of the pulse; the pulse-rate usually reached 100 during the first two weeks, and then slowly rose to 130 or 140. The iodide seemed to exert no effect upon the glands, testes, ovaries, and mammæ. As a rule, the appetite was unaffected and the bowels remained regular in their action. In the beginning of the administration of the salt the conjunctivæ became slightly red with some lacrymation, there was some running at the nose, with hoarseness of voice; but these symptoms were not observed with the larger doses. In a few cases salivation occurred, and in nearly all cases there was increased urination. Albuminuria of passing nature was observed in two cases.

Elephantiasis in Children is generally regarded as a very rare disease, but Moncorvo ("Thèse de Paris"; "Mntshft. f. prakt. Derm.") has met with it forty-one times among one hundred and eighty-three cases of the disease in his clinic in Rio de Janeiro.

Leprosy.—At the June meeting of the Medical Society of Hamburg, Dr. E. Arning opened a discussion upon leprosy, a report of which we find in No. 15 of the "Monatshefte für prakt. Dermatologie." Dr. Arning believes that leprosy bears more resemblance in its course and symptoms to tuberculosis than to syphilis. It differs from syphilis in that its virus is not transmissible by means of the semen, the ovum, or the placental circulation; it presents no characteristic disease in the fœtus; it has no primary infection, manifestation, nor typical incubative stage; it has a steadily advancing course to the lethal end, and spontaneous recovery is very exceptional; its lesions show less tendency to break down; it spares the central nervous system while it attacks by preference the trophic and sensory nervous systems; its bone lesions are only secondary and depend upon severe trophic disturbances on the side of the nervous system, and there are no bony new growths or primary joint affections; it spares the scalp and scalp hair, and has no predilection for the genitals, the anus, or the mucous membrane of mouth; it is uninfluenced by mercury and iodide of potassium.

The bacilli lepræ are not found in the erythematous, papulo-circinate, and bullous eruptions of leprosy, but are present in large numbers in the tubercular forms. All the changes in skin, bone, and muscle of lepra nervorum are due to the implication of the nerves alone. Dr. Arning demonstrates that there are forms of phthisis pulmonum, pleuritis, pericarditis, peritonitis, hepatitis, splenitis, enteritis, orchitis, oophoritis, etc., peculiar to leprosy, which are to be distinguished both clinically and anatomically.

In the discussion, Unna laid special stress upon the therapeutics of leprosy, maintaining that we had made great advances in the treatment of the disease, and would yet advance much farther. He had been very successful in causing the disappearance of the tubercles and improving the general condition in his leprosy cases by the use of inunctions with equal parts of chrysarobin or pyrogallal and ichthyol, to which was added 2 per cent. or more of salicylic acid. Under this ointment a great number of the smaller, younger lesions would rapidly disappear, leaving after a time only the larger tubercles. These last were treated with his salicyl-creasote-plaster muslin and caused to disappear by absorption or ulceration. Internally he administered ichthyol continuously. By this treatment the patients' appetite increased and they gained steadily in weight. Unna thinks it possible to break up the lepra organisms in the lymphatics by means of massage, and that thus a good part of their elements, being set free, will enter the blood-vessels and be destroyed, while another part will become embolically caught in the skin and thus come within reach of the inunctions above proposed.

Tubercular Infection.—Lesser ("Fortschritte der Medicin") speaks out boldly for the occurrence of primary tuberculosis of the skin quite apart from lupus and tubercular ulcers, which have been quite generally acknowledged to be of tubercular nature. Other tubercular diseases of the skin are *gommes scrophuleuses*, scrofulous eczema, verruca necrogenica, and tuberculosis verrucosa cutis. Though these diseases are considered to be of tubercular origin, and small wounds have been thought to be the entrance places for the tubercular virus, still, up to this time, this theory of infection has had no actual support. Lesser here reports a carefully observed case of tubercular infection of the fingers arising in a wound of the first segment of the thumb. The wound did not heal, but under pustulation grew larger. One year after the beginning of the trouble the first segment of the index finger showed an ulcer like that on the thumb. The disease still continued, and in a year and a half the glands of the right breast became swollen, hard, and painful. Some four months and a half after this there had formed a tumor upon the thorax as large as a child's head, with dilated veins in the skin over it. When this was cut into, it was found to be a retromammary cold abscess, the wall of which was covered with a tuberculous membrane. The terminal segments of the thumb and first finger appeared swollen, and, where the skin was not destroyed, dark red. The skin here and there was ulcerated; in other places it was thinned and loosened from the underlying tissues. Granulations sprouted out of the perforations of the skin, bled easily, and were painful. In some places the exuberant granulations seemed to spread under the skin and form subcutaneous swellings. The bone was nowhere laid bare. Microscopical examination of the tissues showed characteristic tubercular appearances.

Lesser further reports a case of lupus, the direct and immediate result of a tubercular disease of the bones and joint, which occurred in a boy twelve years old. This patient at his third year had a coxitis, which took the usual slow course, and formed various fistulous openings. On account of the manner in which he was bandaged, the pus from the diseased joint ran over his skin, and caused an eczema. In the seventh year of the disease the coxitis was cured, but the skin remained raw and refused to heal; the disease even seemed to spread. The surface had become lupoid, with characteristic lupus nodules.

Treatment of Lupus Vulgaris.—Kaposi ("Med. Press and Circular") does not believe that lupus and tuberculosis are at all related, nor that it is advisable in any case to excise the diseased part. Non-excoriated lupus nodules may be made to disappear in about eight months by the application of corrosive sublimate, but this happens in spite of the application, as six to eight months is the typical duration of the nodules. One of the best means of destroying the lupus nodules is by boring into them with a stick of nitrate of silver. In slight cases the nodules may be destroyed by painting them first with caustic potash to remove the epidermis, and then applying a solution of nitrate of silver, equal parts with water. Caustic potash, Vienna paste, chloride of zinc, chloride of antimony, and arsenical paste may be used at times for a change, but they all require care. Pyrogallic acid in 10-per-cent. strength is an excellent remedy. Volkmann's spoon is a valuable instrument for treatment by scraping of all forms but the fine nodular one. The galvano-cautery is also valuable. No one remedy will suffice for all cases, but we must employ different ones to meet different indications.

Alopecia Areata and the Alteration of the Hair in the Same.—Behrend draws attention to the fact ("Virchow's Archiv") that in acute outbreaks of alopecia areata there may be more or less redness of the scalp and stumps, and that this is wanting in slowly developing cases. Many of the hairs in the border of a patch of alopecia areata show only the appearance of *Beethaare*—that is, hairs which in their normal evolution are ready to fall, and would fall quite independently of the occurrence of alopecia areata. Besides these, in all the cases there will be found hairs which are characteristic of the disease, remarkable for their various configuration and for infiltration of air down to their deepest part. This infiltration may go so far that the hair substance in places appears fully split up into fibers, and broken through at these places. This extreme infiltration takes place only in the intrafollicular portion, and the hair breaks off close to the surface of the scalp, leaving a stump. These altered hairs are infrequent in chronic cases, abundant in acute ones. The root ends run out into fine points, and above these there are spindle-shaped swellings. Under the microscope the root end is dotted with long or round dark spots lying lengthwise of the hair. At the spindle-shaped swelling, which corresponds to the infundibulum of the hair follicle, the hair shows in its axis a spindle-shaped black spot, occupying at times the entire breadth of the hair, and looking like a spindle-shaped widening of the medullary canal. In many hairs these spots are so numerous that the whole mass of the hair appears quite black, and then its surface will no longer be smooth, but uneven and frayed. These black specks are air globules. The peculiarity of this is that the air is in the root, whither it can not come without destroying the vitality of the hair more or less. It must be derived from the outer hair, and must cause a drying of the cells of the bulb, and put an end to the growth of the hair, which soon falls. If the whole matrix is filled with air, the growth of the hair will cease at once, and it will fall out while preserving its normal form. In this way the shape of the root will vary in proportion to the amount of air contained in it. Almost all hairs in alopecia areata come out without root-sheath. When a portion of the root-sheath does come away, it is not normal, but in the form of a shrunken, dry, transparent mass. The process at work is a drying process; the air is derived from the atmosphere, and penetrates to the root from above downward. This is permitted, probably, by some disturbance of the circulation, so that insufficient nourishment is brought to the hair and its sheath, the sheath becomes loosened from the hair, and both become dry together.

The Pathology and Treatment of Ringworm.—Dr. George Thin, in the "Practitioner," gives us a treatise upon ringworm in the form of a series of articles, beginning in May, 1887. The trichophyton and its stages of development are fully illustrated with wood-cuts. He says that "there is absolutely nothing in the appearance of the spores or mycelium to distinguish them from those of many other microscopic fungi, known and unknown, a fact that has led to errors of observation which have been copied and handed down from one book to another until they have become classic. We only know that we are dealing with the *Trichophyton tonsurans* when we find it associated with the disease that it causes, or when we find that the fungus fulfills the characteristic conditions of growth in artificial cultivation." The trichophyton fungus is a distinct species, does not develop out of other common fungi, and can not be developed into them. It does not grow on all culture media, and is sterile where the penicillium and aspergillus will propagate. It grows readily in aqueous humor, in vitreous humor for a time, and in meat gelatin. (Careful rules are given for the proper experiments in cultivation.) Along with the growth of the trichophyton in the vitreous humor cultivations other well-defined species of bacteria are developed, such as micrococci, rod-shaped bacteria, and sometimes sarcinæ. Special forms of bacteria will be found at times peculiar to certain individuals, the hairs of certain children giving rise to a growth of sarcinæ, while those of other children do not. In gelatin cultivations the rapid subdivision of the protoplasm of the mycelium does not take place as it should normally. This shows that gelatin is not its native soil. Nevertheless, in many specimens there is an unmistakable tendency to accumulation of protoplasm in something like septa.

The home of the fungus is in certain structures of the skin of some of the mammalia, and only in certain epidermic structures of them, especially the horny layer. It is probable that it requires not only moisture for its development, but moisture of a certain kind, as of certain parts of the body of certain individuals.

In ringworm of the head the fungus enters the hair-shaft near its root, well under the skin, and grows upward into the shaft, and between the sheaths of the hair and the shaft. In some cases all the hairs in a patch are not affected at the same time, and thus we see patches with a few long hairs in them. Eventually they too give way. Special stress is placed, and wisely, by our author, upon disseminated ringworm, when we see diseased hairs here and there over the whole head. He advances as a possible explanation of this variety of ringworm the idea that most of the hairs of such a head have undergone that indefinable change which protects an adult's hair from infection. The successful treatment of ringworm depends on the production of a certain degree of dermatitis. In a child under three years of age begin by using sulphur ointment, one drachm to the ounce. If this is well borne and the disease does not yield, increase the strength of the ointment. If this does not suffice, we must proceed to applications used in older children. For children four or five years of age, in addition to the sulphur ointment, make use of a solution of carbolic acid in glycerin, beginning in the proportion of 1 to 8, first applying the glycerin and then the sulphur ointment. If this does not cure, use the treatment for a child of six or seven or over—that is, by increasing the strengths of the remedies used, and at the first sign of suppurative inflammation suspending them and using boric-acid ointment for a few days. Citrine ointment is also a valuable remedy, and with this we can begin to treat a child of four or five years, using one part of the ointment to six of lard or weak sulphur ointment. The sulphur ointment may be made more stimulating by adding half a drachm of carbonate of potassium to the ounce. It is safest not to apply the citrine ointment to a very large surface. The citrine ointment may be used, like the sulphur ointment, with the carbolized glycerin. Bichloride of mercury is probably the best remedy, but it is dangerous. It is well to have the scalp washed from time to time with soft soap.

Ringworm of the nails is to be treated by scraping the affected nails very thin, and then, if necessary, applying liquor potassæ to soften them. When this is done, creasote or acetic acid may be dabbed on the part, or, better still, a solution of bichloride of mercury, two to five grains in an ounce of alcohol and water. This must be repeated two or three times a day and persisted in.

The Treatment of Chronic Urethritis.—For this obstinate and annoying affection Unna ("Monatshft. f. prakt. Dermat.") proposes to use sounds coated with a salve composed as follows:

Cocoa butter	100 parts;	
Yellow wax	2 to 5 "	
Nitrate of silver	1 part;	
Balsam of Peru	2 parts	M.

This coating hardens at the temperature of the room, but melts at the temperature of the body. The mass is put into a dark bottle and melted in a water bath, then is allowed to cool while being shaken, and when still fluid is poured over the sound held in a vertical position. He prefers to have the sounds made of tin or pewter, excepting in those of No. 10 to 15 F., which should be made of a stiffer, though still supple, material. While the coating is hardening the sound should be turned between the fingers to smooth the coating, and just before it is used it should be passed through the next or second higher number of the Charrière metal scale, so as to procure an even coating. As light deteriorates the silver, the sounds should be kept in a dark room, or, better, they should be protected by some pigment which absorbs the chemical rays of the daylight. The best for this purpose was found to be the coloring matter of the curcuma; 15 grains of the curcuma powder, being mixed with 1,500 grains of the mass, impart to it a canary-yellow color. The sounds are to be hung up in a vertical position in a cabinet. These sounds, thus prepared, are of special use in case of old stricture, accompanied by a slight amount of discharge, and are contra-indicated where the discharge is profuse. In comparatively recent cases of gonorrhœa the sounds are to be used every second or third day. In very chronic cases of stricture the sound of proper size is to be passed through the same and allowed to remain in the urethra for five to ten minutes at first, afterward for thirty minutes. The sounds are increased in size just as is the custom with the ordinary kind. These coated sounds are recommended also for use in chronic urethritis in women, in rectal strictures, in neuroses of the genitals arising from conditions of the mucous membrane of the urethra, and in spermatorrhœa arising from relaxation of the ejaculatory ducts.

The Abortive Treatment of Syphilis.—Mannino reports ("Monatshft. f. prakt. Derm.") six cases of the initial lesion of syphilis which he treated with the Paquelin cautery. The diagnosis was made from the history and appearances of the sore in each case. In four of the cases there was no enlargement of the inguinal lymphatics, but in three of these the woman who was the source of contagion was found to have well-marked evidences of syphilis. The four cases in which there was no inguinal enlargement were not followed by secondary symptoms of syphilis. The two others were so followed, which shows that the treatment is useless after the inguinal glands have become affected.

Treatment of Syphilis.—Vidal ("Gaz. des hôp.") places most faith in the inunction plan of treating syphilis, using the following ointment:

Mercurial ointment	60 parts;	
Balsam of Peru	4 "	M.

The inunctions are to be made daily on the parts of the body devoid of hair, and to be continued for two or three months. While using this, the teeth are to be kept clean with the following:

Powder of rhatany	5 parts;	
Powder of red cinchona	15 "	M.

After about six weeks the frictions need not be made oftener than once in two days. Internally he gives Van Swieten's solution. To infants under two years of age he gives the same solution in milk, while he treats sucking infants by inunctions.

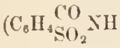
In late secondary syphilis he prescribes:

Biniodide of mercury	¼ grain;	
Potassium iodide, Distilled water, } each	225 grains;	
Syrup of cinchona	2,750 "	M.

Of this two tablespoonfuls are given during the day in peppermint water—one before breakfast and one before dinner, or one morning and night. In tertiary lesions he gives potassium iodide in 30- to 60-grain doses during the meals or afterward, in a large quantity of milk or aromatic infusion. If it is not tolerated by the stomach, it may be given per rectum with the addition of a few drops of laudanum. If it is still not well borne, he substitutes the *sirop iodo-tannique* for it.

Miscellany.

Saccharin.—In a recent editorial article, the "British Medical Journal" says:

"Among the most remarkable of all the marvelous products of the coal-tar industry, as Sir Henry Roscoe has observed, may be ranked the body to which the name of saccharin has been given. This new sweet compound was originally named anhydro-ortho-sulphamine benzoic acid—a ponderous appellation truly, and one to be avoided for trade purposes, at any rate; but, at the same time, we do not think the name saccharin, although in some respects appropriate, should have been applied to this body, as the same term has been in use since 1880 to designate the carbohydrate originally discovered by Péligot among the products of the action of lime on glucose or levulose. There is no doubt as to the great value of the discovery of this coal-tar toluene product; but, while not grudging Dr. Fahlberg the well-merited reward of his arduous labors and his brilliant discovery, still we think the statement that saccharin was discovered by him needs some modification, for, according to Remsen, the able professor of chemistry in the Johns Hopkins University, this substance came to light in the course of an investigation undertaken and carried on by Fahlberg under his (Professor Remsen's) direction and superintendence. The new body in question was in fact first described in their conjoint paper in vol. xii of the 'Berichte d. Deut. chem. Gesellschaft.' The manufacture of this saccharin, or benzoic sulfinide, as it is termed by Remsen, is now effected on a large scale, and a plentiful supply of the toluene from which it is prepared is always to be had. This toluene, or methyl benzene ($C_6H_5CH_3$), is obtained in the destructive distillation of coal, as in gas manufacture, being usually prepared by the fractional distillation of that portion of the coal-tar oil boiling at 100° to 120° C. The pure toluene is treated with sulphuric acid until completely dissolved, and the sulphonic acids thus obtained converted in the usual way into their corresponding chlorides, which in turn are changed into amides by treatment with ammonic carbonate. The ortho-toluene sulphonic amide thus obtained, when oxidized by means of potassic permanganate in presence of caustic soda, yields sodium ortho-toluene, from which, on precipitation with dilute mineral acid, benzoyl sulphuric imide, or saccharin ( $C_6H_4{\overset{CO}{\underset{SO_2}{}}}NH$) at once separates out. This new product is really neither an acid nor an anhydride, although, when an aqueous solution is neutralized with metallic carbonates, salts are obtained. Salts are also formed with the alkalies, which are very soluble, crystallizing in small needles, and having a sweet taste. When fused with potash, it is easily converted into salicylic acid. Saccharin forms a white crystalline powder, which fuses at a temperature of 200° C., when it undergoes partial decomposition, giving off a characteristic odor; it is but slightly soluble in cold water, somewhat more so in warm water, its solubility being, however, greatly increased by the presence of alkalies or their carbonates. Alcohol also furnishes a good solvent for saccharin, particularly 80-per-cent. solutions, and it is likewise freely soluble in warm glycerin; but its most characteristic property is certainly its sweetening power, possessing nearly three hundred times that of cane-sugar, for, while a solution of cane-sugar loses its sweetness when diluted to 1 in 250, a sweet taste is still perceptible in a watery solution of saccharin containing 1 in 70,000. As sugar is a carbohydrate, its solutions are liable to undergo fermentation; but, as saccharin is an aromatic derivative, it is not liable to undergo this decomposition, and hence it may be freely employed without the fear of destructive fermentation occurring. But, besides this, as saccharin possesses considerable antiseptic powers, its use in medicine may often be attended with advantage—as, for example, in cases of alkaline fermentation of urine, upon which it has been shown to exert a strongly retarding influence. Stutzer, Aducco, and Mosso, from their experiments with this body, agree in the belief that it is innocent, so far as the organism is concerned, and Stutzer's experiments further show that its presence has no retarding influence on the digestion of either proteids or hydrocarbons. However administered, saccharin soon finds its way into the urine unaltered, this fluid not being altered thereby. And, while producing no injurious effect on the system, it is found to agree both with invalids and healthy individuals, and no anxiety as to its effect upon the health need be felt, even when taken for lengthened periods. As much as thirty to eighty grains have been administered daily without producing any injurious effect, even upon the appetite. Saccharin may therefore be said to be neither a food nor a poison; but from its peculiar properties it may often be employed therapeutically with advantage. Thus, it may with benefit wholly or partially replace sugar in the diet where the latter is contra-indicated, as in diabetes, general obesity, torpid liver, marked gouty diathesis, chronic glandular diseases of children, and certain senile affections in which various cystic and genito-urinary disorders occur. In two cases of diabetes in which we tried it we found its use attended with marked benefit. From half a grain to a grain and a half of saccharin will sweeten a cup of tea or coffee. Small saccharin tablets, indeed, have been prepared for this purpose, and these are now being supplied, it is said, to the German army; for in a very small bottle of scarcely appreciable weight a soldier can carry enough saccharin for a week's supply. There is a wide field for the application of saccharin to the production of sweetmeats and preserves, and in disguising the taste of bitter and nauseous preparations, as well as in preserving the properties of others. But it must always be carefully borne in mind that saccharin is to be regarded as a condiment, and not as a food like sugar, and can therefore replace sugar only in exceptional cases."

Gleditschine.—Last week we published an announcement by Messrs. Parke, Davis, & Co., of Detroit, to the effect that they were investigating the honey-locust (*Gleditschia triacanthos*), from which an alkaloid termed gleditschine was alleged to have been obtained that had properties remarkably like those of cocaine. We have since received a communication from Messrs. Parke, Davis, & Co. in which they state that an investigation in their laboratory of a solution purporting to be a two-per-cent. solution of gleditschine, supplied by Messrs. Lehn & Fink, of New York, has shown that this solution, with which the experiments thus far recorded have been made, contains six per cent. of cocaine and a sulphate of a base which they think further experiment is likely to prove to be atropine. They add that Mr. F. A. Thompson, a pharmaceutical chemist, reports, after careful experiment with the leaves of *Gleditschia triacanthos*, that they contain only an infinitesimal proportion of an amorphous alkaloid devoid of anæsthetic or mydriatic properties.

The Medical Society of Virginia.—At the eighteenth annual meeting, which was held in Richmond last week, the general interest in the proceedings was greater than our representative remembers ever to have seen before at a medical meeting. An excellent address was delivered by the president, Dr. Bedford Brown, in the course of which he said:

"Intelligent and critical observation is the very foundation of the successful practical study of medicine. The physician who regularly cultivates habits of close observation has greatly the advantage of those who do not. The man of observation who will exert his powers sharply, keenly, and vigilantly in the practical study of his profession will almost certainly attain proficiency and success. Above all others the medical practitioner should cultivate habits of systematic observation not only of morbid action, but of the symptoms of disease, its stages, tendencies, and cause, also of the relations existing between diseases, the constitution, and the peculiarities of his patients. For every patient has as much individuality of constitution as of feature. Those great laws regulating and governing that remarkable and mysterious principle which we term vitality should be made familiar by observation to all. No physician can become a successful student of the constitution and diseases of his race who does not cultivate assiduously habits of observation. It must be a law of his life. When we cease to be observers, we inevitably fall into habits of routinism. Probably no class of men see more of the mysteriously shifting phases of nature, or have a wider field for observation and a fitter one to profit by those means, than the practicing physicians. In truth, every physician to be successful must depend largely on what he observes at the bedside. This is the grand theatre for medical observation. For the books, with all their profound and comprehensive learning, guide us only over a portion of the way, and then leave a vast field, dark, unexplored, and full of mystery, in our travels through which we must depend largely upon our own good sense and personal observations. And it is in this unexplored region of medical science that the practical student most needs his powers of observation. There exists stored up in the mind of every practicing physician, acquired by personal observation in his silent watching of disease, an unwritten experience that must be of incalculable value to himself, upon which he is at liberty to call on all occasions. Every good practitioner possesses a stock of this unwritten experience which is always ready and convenient for application to practical use. I have never conversed or consulted with one of my own profession, however unpretentious or moderate in intelligence he may have been, provided he had experience in his vocation, that I could not derive some information of value, some fact of interest, which I did not previously possess. Therefore every man is a learner and can be a teacher on occasions. I am persuaded that every intelligent practitioner could, if so disposed, give to the profession useful and valuable information, derived from his own observation and experience, which no other possesses. But it is sadly true that some men never observe. Some observe superficially, while others are profound and analytical observers of everything that comes within their mental range. It is the latter who accumulate valuable and useful information from every source, and who become conspicuous as men of resource and practical worth."

A Naval Medical Examining Board is now in session at the Naval Hospital, Philadelphia, for the purpose of examining candidates for admission to the medical corps of the navy. Circulars of information can be obtained on application to the president of the board. There are twelve vacancies in the list of assistant surgeons.

The London Throat Hospital.—We have received an announcement of a plan of systematic courses of instruction in diseases of the throat and nose, each of four weeks' duration, to be given to practitioners by Dr. R. Norris Wolfenden, Dr. James W. Bond, and Dr. Greville Macdonald, the physicians to the Throat Hospital, Golden Square, London. The fee for a month's instruction is 2 guineas. The first course began on the 10th inst.

The Western Pennsylvania Medical College, of Pittsburgh, began its second regular course on the 27th of September, with a class of nearly one hundred students—a fact that is highly significant of the success of the institution. An entrance examination is required, and a three years' graded course is provided.

The New York State Medical Association.—The fifth special meeting of the Fifth District Branch will be held in Richmond County (Staten Island) on Tuesday, November 15th. The notice that we have received does not mention the town in which the meeting is to be held.

The American Public Health Association.—We learn that arrangements have been made by which delegates to the meeting, to be held in Memphis, Tenn., on the 8th, 9th, 10th, and 11th of November, can obtain round-trip tickets from New York over the West Shore Railroad for $37.20.

The New York Post-graduate Medical School and Hospital.—New appointments in this institution have been made as follows: Dr. Robert Abbe, professor of clinical surgery; Dr. A. M. Phelps, professor of orthopædic surgery; Dr. Henry D. Chapin, professor of diseases of children; and Dr. J. H. Girdner, instructor in clinical surgery.

The New York Polyclinic.—Dr. Francis J. Quinlan has been appointed instructor in the department of diseases of the throat and nose.

The Health of Boston.—During the week ending Saturday, October 22d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 16 cases and 6 deaths; scarlet fever, 57 cases and 4 deaths; typhoid fever, 22 cases and 6 deaths; measles, 3 cases and 1 death. There were also 25 deaths from consumption, 17 from pneumonia, 13 from heart disease, 12 from bronchitis, and 7 from marasmus. The total number of deaths was 200, against 177 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending October 21st:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 1st corresponded to an annual rate of 17·5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Brighton, viz., 12·8, and the highest in Preston, viz., 31·6 in a thousand. Small-pox caused 10 deaths in Sheffield and 1 in Bristol.

London.—One thousand two hundred and forty-four deaths were registered during the week ending October 1st, including 21 from measles, 38 from scarlet fever, 20 from diphtheria, 34 from whooping-cough, 12 from enteric fever, and 43 from diarrhœa and dysentery. There were 219 deaths from diseases of the respiratory organs. Different forms of violence caused 46 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 15·4 in a thousand. In greater London 1,571 deaths were registered, corresponding to an annual rate of 15·1 in a thousand of the population. In the "outer ring" 11 deaths from diphtheria and 9 from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 1st in the sixteen principal town districts of Ireland was 24·7 in a thousand of the population. The lowest rate was recorded in Lurgan, viz., 0, and the highest in Sligo, viz., 43·3 in a thousand.

Dublin.—Two hundred and nine deaths were registered during the week ending October 1st, including 13 from measles, 3 from whooping-cough, 1 from scarlet fever, 1 from enteric fever, 18 from diarrhœa, and 1 from dysentery. Diseases of the respiratory organs caused 22 deaths. Two accidental deaths were registered, and in 34 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 30·9 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 1st corresponded to an annual rate of 17·7 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Perth, viz., 3·2, and the highest in Paisley, viz., 24·8 in a thousand. The aggregate number of deaths registered from all causes was 442, including 2 from measles, 12 from scarlet fever, 6 from diphtheria, 23 from whooping-cough, 11 from fever, and 17 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending September 24th corresponded to an annual rate of 20·9 in a thousand. The lowest rate was recorded in Stuttgart, viz., 10·7, and the highest in Aachen, viz., 30.

Nice.—Two hundred and seven deaths were registered during the month of August, 1887, including 13 from small-pox and 5 from enteric fever.

Marseilles.—The United States consul, in his dispatch under date of October 6, 1887, relative to the arrival of the steamer Alesia at New York on the 23d of September, with several cases of cholera on board, and to the American newspaper reports that the disease was brought from Marseilles, states that "the Alesia left this port (Marseilles) on the 30th of August last in perfect sanitary condition, and without a single passenger of any class on board. All the emigrants and other passengers among whom the cholera broke out during the voyage to New York were taken on board at Naples, where the steamer arrived on the 1st of September. The cholera now at the quarantine station in New York bay is an offshoot from the epidemic which is raging in Sicily, and more or less generally throughout southern Italy."

The consul reports for the month of September, 1887, 8 deaths from sporadic cholera.

Rome.—The United States consul, in his dispatch dated September 26, 1887, relating to the sanitary condition of various portions of Italy, states that "cholera has prevailed in certain parts of Sicily since the early spring. With the beginning of summer the disease appeared at some southern places on the main-land, also in the environs of Naples, and finally in that city early in August. Up to the present time neither the government nor other authorities give any information, statements, or bulletins concerning it, with the exception of in Sicily, from whence the associated press of Italy, under government surveillance, telegraphs daily showings for the chief cities of Sicily. Besides these chief cities—Palermo, Messina, and Catania—I have the best reasons for believing that many scattered cases of cholera are now occurring daily, not only in Sicily, but in many ports and places in the southern and central portion of the main-land, notably south of a line drawn from the Mediterranean opposite Rome across to Ancona, on the Adriatic. The various Mediterranean countries have now in force quarantines against Italy, extending from five to twenty-one days for vessels from any port of Italy whatsoever. The sanitary measures of the Italian Government and local authorities are energetically enforced, and are deserving of every praise.

"During the last four years Italy has suffered so much from cholera and from quarantines, both foreign and domestic, that the present action of the government in withholding information relating to certain parts of the kingdom may be attributed to a desire to carry out the results of experience, and not to any lack of good faith. But at the same time it is true that as regards information relating to the disease on the main-land, no facilities are given for arriving at the truth. . . . There is now a quarantine observation of two days for detached soldiers on furloughs coming north of the line of railway between Rome and Ancona. Otherwise there are no restrictions in Italy on commerce or travel by land or sea, except the prohibitory measures against old rags, already reported to the department. Vessels communicate freely between the infected and non-infected ports of the kingdom. As concerns the United States, besides sailing vessels, there are at present three separate lines of steamers running between Palermo and Naples and New York. These steamers, as a rule, make the round of the chief ports of Sicily—say Messina, Catania, and Palermo—then proceed to Naples, whence they depart for the United States. In addition to cargo, nearly all carry emigrants or third-class passengers, recruited in Sicily and in southern parts of the main-land."

Palermo.—The United States consul, in his dispatch dated September 19, 1887, states that "the number of cases and deaths from cholera during the week ending the 18th instant amounted to 48 and 35, respectively, the same being a decrease of 38 cases and 12 deaths compared with the preceding week."

Under date of September 26th, the consul reports that there were 54 cases and 24 deaths from cholera in Palermo during the seven days ending the 25th instant, the same being an increase of 6 cases and a diminution of 11 deaths compared with the preceding week.

Florence.—The United States consul, in his dispatch dated October 4, 1887, states that "while the authorities do their utmost to keep secret all cases of cholera occurring there, and the health officer continues to grant clean bills of health to vessels leaving that port, cases of cholera are being daily declared by the municipal doctors."

Athens.—The United States consul, in his dispatch dated September 24, 1887, reports that the Greek Government has issued decrees of quarantine against all arrivals from the following-named ports:

A. A strict quarantine of eleven days on all arrivals from Cagliari, in Sardinia.

B. A quarantine of observation of five days on arrivals from other Sardinian ports.

C. A quarantine of observation on arrivals from the eastern coast of the Italian Peninsula, from Manfredonia to the Austro-Hungarian frontier.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	October 1.	2,260,045	808	..	....	6	....	26	2	15
Glasgow	October 1.	545,678	172	..	....	....	....	5	4	3
Warsaw	Septemb'r 24.	439,174	236	..	...	32	....	....	3	5
Amsterdam	October 1.	378,686	143	..	....	....	....	2	....	6
Palermo	October 2.	250,000	108	12	....	....	1	3	1	....
Belfast	October 1.	224,422	95	..	....	....	2	4	2	....
Havana	October 6.	208,000	171	..	10	56	....	3	....	....
Genoa	October 1.	179,520	75	..	....	7	1	....	....	....
Leipsic	October 1.	170,000	61	..	....	....	....	....	....	4
Martinique	Septemb'r 24.	165,000	......	..	2	....	....	....	....	....
Trieste	Septemb'r 24.	150,157	92	..	....	3	....	....	5	3
Stuttgart	October 1.	125,510	39	..	....	....	....	....	....	3
Toronto	October 8.	120,000	16	..	....	....	....	1	....	....
Pernambuco	Septemb'r 20.	111,000	52	..	....	....	2	....	....	....
Reims	October 1.	97,903	45	..	....	....	....	1	...	....
Mayence	Septemb'r 24.	65,701	25	..	....	....	1	....	1	....
Guayaquil	Septemb'r 29.	30,000	72	..	....	12	....	....	....	....

UNITED STATES.

New York Quarantine—Cholera.—The following report, under date of the 19th instant, has been received from Dr. William M. Smith, health officer of the port:

"One case has developed among them since the night of the 7th instant. This case, a child, had been closely isolated, with its grandmother as attendant, for two or three days before the characteristic symptoms appeared. The child and attendant were sent to hospital without exposure of any other person. This child was thus closely quarantined on account of several other members of the family having the disease. The patients, seven in number, now in hospital from the Alesia, are all convalescent."

Tampa, Fla.—Yellow Fever.—Deputy Collector Spencer reports under date of October 21, 1887, as follows: "From best data 150 cases reported, 25 deaths. Two deaths, 5 new cases since report." The construction of a temporary hospital building has been authorized by this bureau, and acclimated nurses have been employed to aid the local authorities.

ANSWERS TO CORRESPONDENTS.

No. 66.—We do not regard the periodical which you mention as an authority in such matters.

No. 67.—The Royal College of Physicians and the Royal College of Surgeons, of London, are two separate institutions.

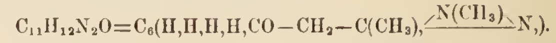
No. 68.—A work entitled "The Rules of Aseptic and Antiseptic Surgery," by Dr. Arpad G. Gerster, professor of surgery in the New York Polyclinic, will shortly be issued by Messrs. D. Appleton & Co. We think it will contain the information you require. In regard to your second question, see the "United States Dispensatory," 15th edition, page 1655.

No. 69.—We shall shortly publish an article on the subject.

No. 70.—Some of the pharmaceutical preparations of saccharin are said to contain a little sugar of milk, but the "Lancet" states that Burroughs, Wellcome, & Co.'s "tabloids" are entirely free from sugar.

No. 71.—One part of bromine should dissolve in thirty-three parts of cold water. Its solubility is greatly increased by the addition of potassium bromide.

No. 72.—The formula of antipyrine is



$$C_{11}H_{12}N_2O=C_6(H,H,H,H,CO-CH_2-C(CH_3),\overset{\diagup N(CH_3)\diagdown}{\overline{\hphantom{N(CH_3)}}}N,).$$

It was obtained by Knorr by boiling oxymethylquinizine with equal parts of methyl alcohol and methyl iodide. The formula of acetanilide is $C_6H_5.N.(C_2H_3O).H=C_8H_9NO$. It is prepared in several ways, one of which is by heating aniline acetate.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE CORSET:

QUESTIONS OF PRESSURE AND DISPLACEMENT.*

By ROBERT L. DICKINSON, M.D., Brooklyn,
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Ridicule, argument, and invective have been freely expended upon the artificial small waist since the days of Martial and Galen. Yet the habit of corset-wearing has received little systematic study, and men's opinions are widely at variance. We frequently meet with the statement that corset-wearing works great injury; we discover a catalogue of five-and-ninety different diseases and disorders due to tight lacing; we find Bouvier, who has written the elaborate and interesting history of this article of dress, vigorously asserting that "the modern corset, moderately tightened, is without appreciable influence on the health of the healthy woman"—and we encounter all shades of opinion between these extremes. But unsupported assertion is poor evidence, although a general impression must carry some weight. To obtain clear perceptions of the action of the corset, I have endeavored to measure the amount of pressure it exerts, to ascertain the distribution of the pressure, and to determine the displacements resulting therefrom, studying the subject with as little bias as possible, stating bald facts, and rarely expressing opinions.

First a few words as to past usages. In the day of the primitive man, writes Bouvier, as soon as men were sufficiently elevated above the beast to admire the forms of women, women began to shape themselves to an ideal. Homer's Juno wore a many-layered girdle. The Greek women raised up hanging breasts and bandaged in prominent abdomens. The fascia and strophinum of the Roman lady, that the later poets tell of, were accused of deforming a chest, or crowding in an abdomen, or bringing about a curvature as effectually as any tight lacing of our day. These were the bandages, numerous and variously stiffened, that Galen inveighed against. In the dark ages the accomplishment vanished from western Europe, not to reappear until the sixteenth century. Then came the day of the perfect flower of small waists, as they have not been known before or since. The old portraits excite our wonder with good cause. The "corps" or corset of Catherine de Medici and Elizabeth was a "terrible engine," a case or sheath of nearly solid metal, rigid and unyielding. "To make their forms thin as a Spaniard's," cried Montaigne, "what hell will not women suffer, strained and lashed (*quindées et cenglées*) to the very quick?" Deep excoriations resulted from this pressure, and sometimes, he says, death ensued, even as Ambroise Paré also testified, citing his sectio cadaveris on a patient who died from such cause, in whom the lower ribs rode over one another (*chevauxçaient*). Before the year 1600, iron, ivory, and wooden busks† are credited with many abortions and much pulmonary hæmorrhage.

Men wore corsets for a time. The next step was to begin at the cradle. In order to produce men and women of beautiful proportions and new forms one could not commence too early, and "any mother would have laid herself open to the charge of gross indifference to her children's welfare who neglected these early cares, reputed indispensable to any regular formation of body."

The French Revolution swept away the iron and bone cuirass and brought in its stead the comparatively pliable and yielding corset of our time. I find in the journals and current stories evidence that in the early part of this century tight lacing was far more prevalent than to-day. Women occasionally died in the harness. Goodman, of Boston, writing in 1829, speaks of a not unusual practice of wearing the corset at night, tightening it when lying down, and again in the morning on rising. He found servants wearing such busks as to prevent sufficient stooping or crouching to put the kettle on, or place it on any lower level than a bench.

Observations on Corset Pressure.—The first test applied was to determine the external pressure by the manometer.* The bent U-tube carries between its arms a sliding scale, graduated in both directions. All the tubing is practically inelastic. That near the bag and the bag itself are re-enforced with cloth so that it is entirely inelastic. The T-branch running downward permits the bag to be filled or emptied without disturbing the mercury. The whole apparatus is filled with water to the perfect exclusion of air; the mercury is poured in so as to displace the water, and the water in the long limb adjusted above the mercury to the same level as that in the horizontal bend opposite. The bag must contain just sufficient water to bring its sides parallel and about one fourth of an inch apart, so that we get four square inches of contact when it is held between two plane surfaces. When the bag is on the same level as the fluid in the tubes, the mercury columns exactly balance; the zero point of the scale is then adjusted to the top of the mercury; the bag is slipped beneath the corset, the instrument is so held that the bag and tops of the water columns are on the same level, the corset is closed, and the readings

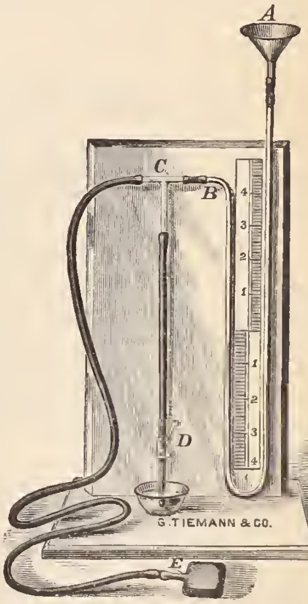

Fig. 1.—A manometer for testing the pressure. The bag, *E*, is slipped under the corset.

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* Read before the Brooklyn Pathological Society, April 28, 1887.

† The "busk" is the front plate of the corset, which may be broad and of one solid piece, or divided and furnished with buttons as in the modern model.

* This apparatus is modified from those of Croom and Schatz.

are made. Care is taken, before every observation, to make sure that the levels are right, since a slight lowering of the manometer sends up the mercury column appreciably. Two inches of mercury displaced—*i. e.*, an inch on each side—will signify a pound of pressure to the four square inches of bag surface. To obtain the number of pounds pressure on one square inch of surface, the reading is divided by eight. The division tends to minimize any error.

Before recording these figures we may glance at other pressures in the body. I prefer to give the figures in pounds to the square inch, inasmuch as confusion arises from one observer speaking of an inch of mercury displacement when he refers to one column only, which would be named by another two inches displacement. If I speak of the mercury column I refer to the difference between the two levels.

The words "tight" and "loose" as applied to corsets need to be defined. They lack precision, but are necessary. We can not determine any limit of contraction in inches as the dividing line, since in cases cited farther on 1½ inch lessening of waist measure with one woman will cause more pressure and more distress than 5 inches in another. The guide must be the patient's sensations—when we can trust her testimony—and signs that are readily appreciated, such as the restricted respiration and movement, evident discomfort when the corset is first hooked, flushing of the face in a warm room, and the indentations in the skin after removal of the corset.

Appearance goes for nothing; a large bust and wide hips or shoulders give an impression of slenderness in the waist which may be entirely deceitful.

TABLE OF VARIOUS PRESSURES IN THE BODY AS COMPARED WITH CORSET PRESSURE.	Pounds pr'ssure to square inch, in decimals.	In eighths of a pound.
Blood-pressure, according to Foster, about	3·5	29
During labor pains, uterine force (Schatz)	1·6 to 5	. .
" " " pressure in bladder, average (Croom)	1·88	15
" " " pressure in bladder, maximum.	3·2	25
Pressure in rectum in making straining efforts (Schatz)	3	24
Expiratory force of lungs in man (Hutchinson)	2·50 to 3	16
Inspiratory or suction force (Hutchinson)	2	12
Pneumatic cabinet, increase of pressure bearable by patient	·5	4
" " decrease of pressure bearable by patient (Westbrook)	·5	4
Corset.—*1st, Tight Lacing.*		
The maximum pressure recorded was over the cartilages of the sixth and seventh ribs after a deep inspiration	1·625	13
Average pressure over sixth and seventh cartilages after full inspiration	1·25	10
Quiescent condition, over these cartilages	·625	5
" " mid-axillary line over sixth and seventh ribs	·5	4
" " epigastrium	·25	2
" " navel	·125	1
2d, Loose Corsets: 0·4 less than the preceding.		

The total pressure exerted by a given corset is obtained as follows: The areas of like pressures are chalked out on the corset by shifting the bag about under the corset, and testing at every move with the manometer. Knowing the number of square inches in an area and the number of pounds of pressure to the square inch, the pressure exerted on that area is found; adding the pressures in the various areas together gives us a total. This is by no means absolutely accurate, but furnishes a tangible figure. This estimate errs on the side of too low pressure by entirely leaving out of account the pressure below the crest of the ilium laterally and posteriorly.

I give two illustrative cases:

X. Y., habit of tight lacing; four children; lax abdominal wall; corset rather short. Circumference at waist without corset, 29 inches; circumference at waist over corset, 23½ inches; difference, 5½ inches. The total pressure of her corset is 65 pounds.

A. Z., vigorous, well built; one child eight years ago; has a strong abdominal wall; do not think she has worn tight corsets in some years, as she states; corset long. Waist measure without corsets, 27 inches; waist measure over loose corsets, 27 inches; no difference. Pressure, 40 pounds.

Same patient, waist measure without corsets, 27 inches; waist measure over fairly tight corsets, 25½ inches; difference, 1½ inch. Pressure, 73½ pounds.

The patient X. Y. had a flabby abdominal wall from frequent pregnancies and constant corset pressure. The patient A. Z. has a muscular abdominal wall; she says she works at home without corsets. These facts explain the seeming discrepancy that in the first case, with 5½ inches of constriction, the pressure is 65 pounds, while in the second, with 1½ inch, it is 73½ pounds. In one the parts readily yield; in the other firm resistance is encountered.

The least pressure I have estimated from a corset is 21 pounds; the greatest pressure I have found is 88 pounds.

A notable point in the use of the manometer is the distinct fall of the mercury during the first twenty seconds after the primary rise that occurs when the corset is hooked. This fall is followed by a slight rise or reaction before the mercury steadies itself. The main fall averages one inch (one eighth of a pound to the square inch), and must be due to the displacement of organs and the expulsion of blood from the liver and abdomen and of air from the lungs.

Within the half-minute that follows any exertion, such as rising, lying down, turning over, or straining, the mercury rises from ½ to 1½ inch, then gradually falls to its steady level. The reasons for these facts we may best study farther on in connection with the two cavities and their contained viscera.

On taking off a corset, one often observes that if the circumference of the waist is taken at once, and again a few minutes later, an increase of about an inch will have occurred.

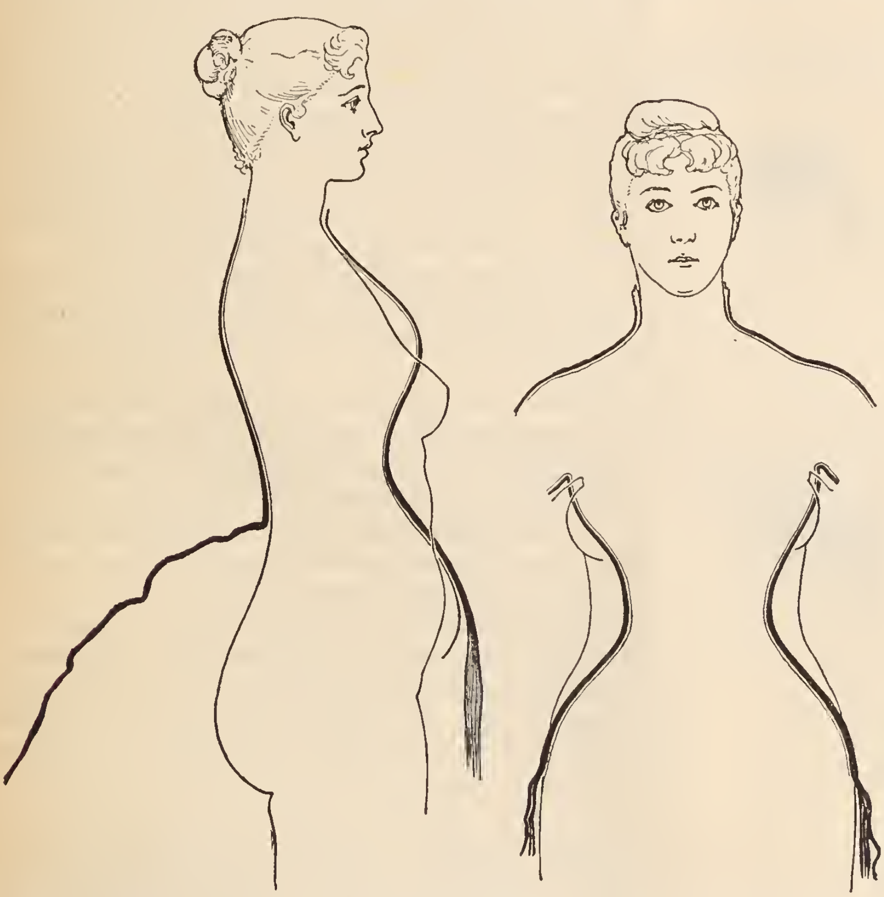
Waist Measure.—Six inches difference between the circumference of the waist over the corset and the waist with the corset removed is the greatest difference I have measured. Five and a half and five I have met with once each. The least difference is in those cases where the measurement with and without is the same.

The average contraction of the 52 cases given in the table is 2½ inches. The maximum there is 4½ inches, the minimum 1 inch.

In the woman who wears no corsets the many layers of bands about the waist on which heavy skirts drag are sufficient to cause considerable constriction, as Dr. Mosher states.

We have seen that the amount of contraction at the waist bears no constant proportion to the amount of pressure exerted by a corset; we shall see that it bears no constant proportion to the diminution of vital capacity, excepting a very general one. The shape of the corset and the strength of its bones are other factors we must know, and the habit of the individual, the resisting or yielding nature of the abdominal walls, and the readiness with which organs are displaced, bear largely on the problem.

Effects of Pressure on the Thorax and Abdomen.—The "statical and dynamic mechanism of the thoracic and abdominal cavities" differ widely, as Walshe remarks. The chest may be said to be filled with air, the belly with water. Schatz connected a glass tube filled with water with the water-filled lower bowel, and found that the fluid in the tube was always on a level with the highest part of the abdominal cavity,* whether the patient stood, sat, or lay down, and whether much or little water was injected. The thoracic organs may readily accommodate themselves to a pressure that simply squeezes out some residual air; the abdominal viscera must be displaced. Accommodation can only be favored by expulsion of blood from the cavity and reabsorption of the gases distending the intestine. Let us first consider the cavity of the chest.



FIGS. 2 and 3.—The heavy outline is the tracing of the corseted woman; the light, the same without corsets.

Effect on the Chest—Alteration in Shape.—My sketches of the changes in contour of the thorax and abdomen were made by accurately ascertaining the normal and the corset outline in the same subject by blackboard tracings or shadows thrown on manilla paper. These seemingly exaggerated proportions have been verified by caliper measurements, and I have been careful to undervalue rather than to overstate my fact. The organs were filled in from the frozen sections of Braun, Ruedinger, and Hart, from the valuable atlas and illustrated writings of Sibson, and from Frerichs.

The thoracic cavity suffers less diminution in size and alteration in shape from corset-wearing than the abdominal. The principal constricting effect is exerted below the fifth rib. In the mid-axillary line the lung does not descend below the sixth rib in tranquil breathing. Below this level the "chest-wall" practically is the cover for the abdominal viscera, and it is on these that the corsets bear "The transverse diameter of the chest from the seventh rib to seventh rib, instead of being greater than that from fifth to fifth, as it is in males, is in females considerably less. The difference is greater or less according as the stays are worn more or less tight" (Sibson). Below the seventh rib the transverse diameter of the bony cage normally dwindles (Sappey), and from eleventh to eleventh is from one to one inch and a half less than the transverse diameter at the seventh or eighth. Bouvier measured one hundred and fifty subjects of both sexes and all ages, and found this relation constant. The corset increases this difference, and starts the downward taper at the fifth rib instead of at the seventh. Narrowing of the triangle between the cartilages of the lower ribs to a groove of the width of a finger is the extreme that Engel has sometimes seen. The inferior edge of the lung is therefore compressed, and its ability to distend the lower part of the pleural cavity seriously crippled. Compensation in part is effected by the tendency of the corset when firmly adjusted to raise the shoulders—which I find quite constant—forcing the upper lobes to do the breathing, as Sibson has proved, raising the thoracic, or five upper ribs, widening the interspaces (also a constant condition in the female), and in this way expanding the highest part of the conical thoracic cavity. This broadening above and constriction below are shown in Figs. 2, 4, 5, 6, and 7. Freer play of the apices in women who wear corsets would lead one to expect consolidation at these points to be relatively less frequent than in men, while affections at the base should be more commonly met with. An increased tendency to emphysema of the upper lobes might also be anticipated.

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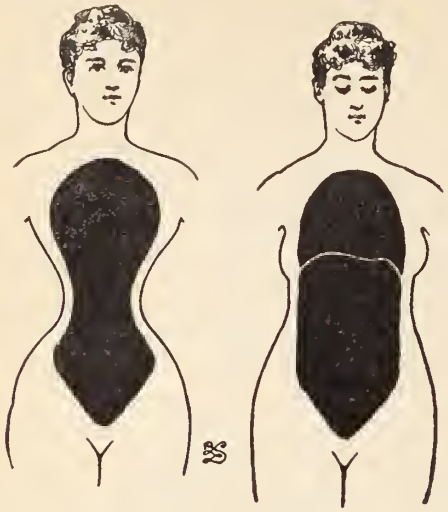
* With certain allowances easily explained.

One other change may be noted in some frozen sections, and is occasionally observed in examination of the chest—namely, a more marked inward curve in the lower part of the sternum than is usually found in men, whereby the antero-posterior diameter of the lower part of the chest is somewhat diminished.



Figs. 4 and 5.—The shape of the cavity when the corsets are tight; the same without corsets.

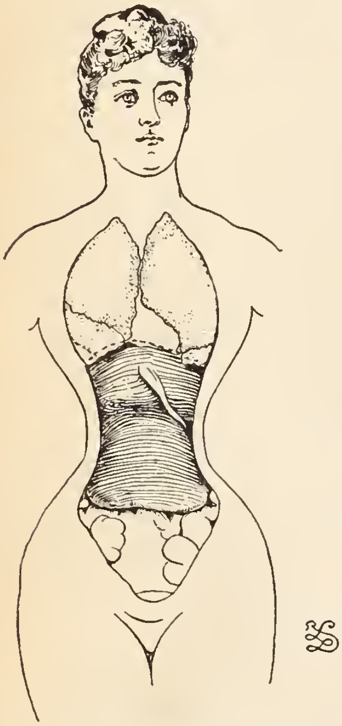


Fig. 6.—The displacement of viscera (tracings).

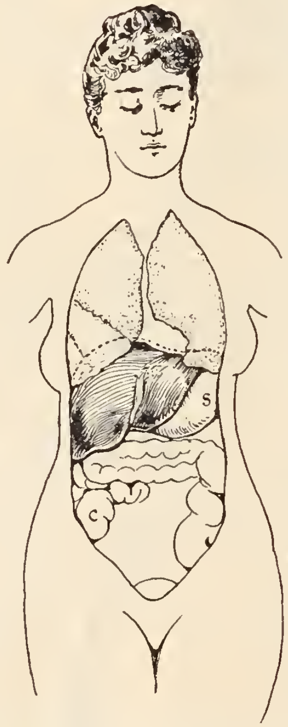


Fig. 7. -The normal position of the organs (tracings).

The Thoracic Breathing of Women.—May the peculiar character of the respiration in women be attributed to the use of corsets? Two observers who are especially qualified to testify have stated the case so forcibly that I quote them entire. Sibson has made by far the most extended of all the studies of the mechanism of respiration. His painstaking accuracy is Teutonic. Walshe's opinion carries great weight. Sibson says:

"In the adult female the form of the chest and abdomen and the respiratory movements are often undoubtedly modified by tight lacing.

"The form of the chest and the respiratory movements do not differ perceptibly in girls and boys below the age of ten. Although the form of the chest remains nearly the same until the age of twelve, the abdominal movement is then somewhat less and the thoracic somewhat greater in girls than boys. At this age and earlier stays are worn, and though they do not compress the body materially, yet they restrain the free expansion of the lower ribs during free exercise. After the age of fourteen the form of the chest and the respiratory movements differ materially in females and males.

"When stays are on there is a great exaggeration in the thoracic movement, the second ribs moving forward from 0·06 to 0·2 inch, while, when the stays are off, they only move forward from 0·03 to 0·1 (that is, one half as far). On the other hand, the movements of the lower ribs are much more restrained when the stays are on—the abdominal movement then being 0·06 to 0·11 inch, whereas when they are off it is 0·08 to 0·2 inch. The difference at the waist when measured with the tape is very striking, the increased measure during extreme inspiration being 0·05 to 0·3 of an inch when they are on, and from 0·6 to 1·5 when off (from two to thirty times as much). I have found the circumference at the waist from one to two inches less when stays were worn than when they were taken off. . . .

"I think it probable that in females, even if they wore no stays, the thoracic respiration would be relatively greater and the diaphragmatic less than in man; but this is only surmise."

Delicate men, he says further, approximate to the female thoracic breathing, vigorous women to the male abdominal breathing, and long-distance runners have the least thoracic breathing of all men (in the quiescent condition).

The diaphragm would seem, therefore, to be a muscle capable of developing to meet increased demands as much as any other that the athlete strengthens.

Walshe objects to the supposition that the sexual difference is "preordained to meet the difficulties of pregnancy," as Boerhaave maintains, and asks whether ascitic females escape dyspnœa. "If we were forced," he says, "to the admission that the activity of infra-clavicular respiration-movement in the female is in the main designed by nature"—for which no cause can be detected—"and independent of extraneous influence, still I can not help thinking that the great excess of that movement and the limitation of thoracic play to the upper thorax in the civilized adult female are due in no small part to the unyielding cases interfering with inferior costal and phrenic action. The agricultural woman, who knows not stays, breathes more like a man than the town female. Besides, during sleep the conditions of pectoral and ventral action of the female are much less strikingly different from those in the male than in the waking state; the waist is relieved for a time from constriction. And, further, the male and female dog breathe almost exactly alike, as do the horse and mare; the action is abdominal and lower costal."

Dr. Mays, of Philadelphia, has recently studied the respiratory movements of Indian girls in the Lincoln Institution. They had always worn loose clothing. They ranged between ten and twenty years of age. Tracings from their costal and abdominal respiratory movements showed a very close analogy to those of the civilized male, and that, "so far as the Indian is concerned, the abdominal is the original type of respiration in both male and female, and that the costal type in the civilized female is developed through the constricting influence of dress around the abdomen. This is markedly shown in the greater prominence of the costal movements in those girls who were either one half or three fourths white, and who were hence dominated to a greater or less extent by the influence of civilized blood. . . . It is also evident that the costal type of respiration in the civilized female is not due to the influence of gestation."

"The expansion of the lower ribs," says Sibson, "is much more impeded than the descent of the diaphragm." By measurements to be detailed farther on, I find that, comparing full inspiration and complete expiration, the pelvic floor has a range of respiratory movement about one fourth less when the corsets are fairly tight than when they are off, whereas the lower ribs are so firmly incased as scarcely to expand at all. An old, broken, or very loose corset allows some inferior costal play; but, since this is the location of the ring of most marked constriction, even these cripple it considerably.

In what degree the total expansion is limited by this article of dress I have attempted to work out by studying the vital capacity * with and without corsets. To compare the expansion as measured ordinarily in men by passing a tape-measure about the chest is scarcely accurate when applied to women, since the soft parts vary in thickness, the mammæ being pushed upward by the corset and hanging down without it. The spirometer test is not open to any serious objection. I am greatly indebted to Dr. L. M. Hall for the labor involved in working out for me the following table:

Table showing the Effect of Corsets on Expansion in Fifty-two Women.

	Age.	WAIST.		Diff'rence.	VITAL CAPACITY.		Diff'rence.
		With.	Without.		With.	Without.	
Totals	1,100	1,245¼	1,378¾	133½	6,944	8,487	1,543
Averages..........	21·15	23·95	26·52	2·57	133·54	163·21	29·67
Extremes.......	13	21	23½	1	80	100	5
	35	29	30½	4¼	220	260	75

The average age is twenty-one. The average waist with the corset off measures 26½ inches. The average measurement over the corset is 24 inches, or 2½ inches less. The average vital capacity is 163 cubic inches without corsets. The average vital capacity, wearing the corset, is 30 cubic inches less.

The individuals upon whom these observations were made were servants of the best class. One half were native-born, the other half Irish (seventeen), German, Swedish, and English. Except on festive occasions, our immigrants have rarely worn corsets before reaching this country. All these are women who work, and, consequently, should have a more vigorous muscular system and better expansion than wealthier corset wearers, although Dr. Hall states that these servants lace tighter and are less healthy in appearance than the young ladies of the institution in which the observations were made. Among women who lead less active lives, while wearing closer-fitting street- and evening-dresses, it might be expected that the interference with expansion would be greater and of more serious import. In the cases given above the limitation is three sixteenths, or nearly *one fifth*.

We must remember always that our witnesses are inclined to perjury. The testimony is made to favor the corset, if possible, and to prove that it is not tight.

This table contains no instance of the eighteen- or sixteen-inch waists of which we hear accounts. The least measure is 21 inches. Nineteen inches and a half is the smallest circumference I have measured over the corset; the patient's normal measurement was 24 inches.

To ascertain whether there was any constant proportion or relation between the amount of constriction and the diminution of the vital capacity, I worked out a number of tables, which showed that the lessening of the circumference of the waist and the lessening of the vital capacity bore no constant relation. The problem is not so simple. Hutchinson found in his study of vital capacity (in 4,800 males) that the chest circumference bore no direct relation to the vital capacity. In a man of five feet one inch the vital capacity averages 175 cubic inches, and it varies eight cubic inches for each inch in height. I have not been able to find the average height of woman, or any statements relating to her vital capacity as compared with man's. From occasional measurements in gymnasiums, however, I know that it is less than man's in proportion to her height.

Effects of the Pressure on the Abdomen.—The abdominal cavity has far greater pressure and much more marked alteration in shape to suffer than the thoracic. The change in its lateral walls has been considered in part, and figured in Figs. 3 and 4. In antero-posterior section (Fig. 9) the

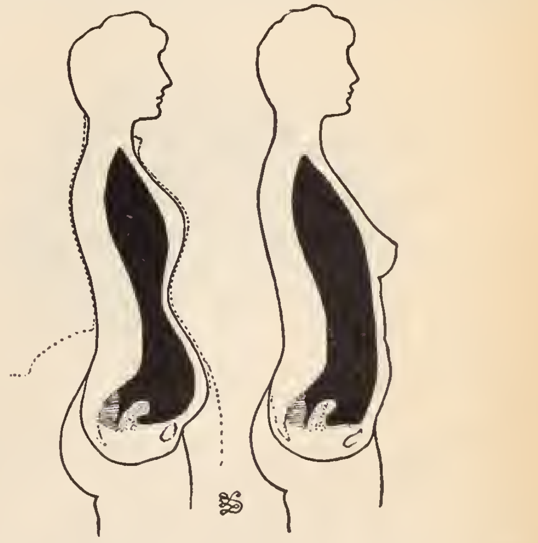


Fig. 9.—Antero-posterior section; shape of cavities with and without corsets.

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* Hutchinson employed "vital capacity" to indicate the total number of cubic inches of air a man could expel from his lungs after the deepest inspiration.

deformity to which I would especially direct attention is the close approximation of the belly-wall to the spinal column, and the bulging of the hypogastrium. I have pictured no exaggerated instance, but give the tracing from a muscular young woman who has never been pregnant, with an abdominal wall of better vigor than common.

It will be seen that without the corset the breasts project beyond the abdomen, just as in a finely developed man the pectorals first touch a perpendicular; whereas, when the corset has raised the "bust" and crowded the abdomen down and out, the supra-pubic wall becomes the most prominent and projecting part of the profile.

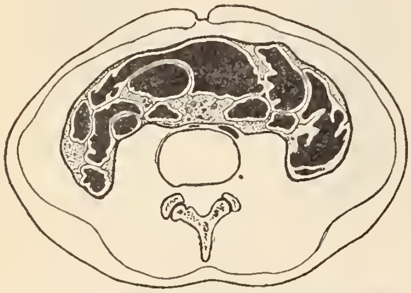

Fig. 10.—Section through umbilicus, least pressure; the black spaces indicate the empty intestines.

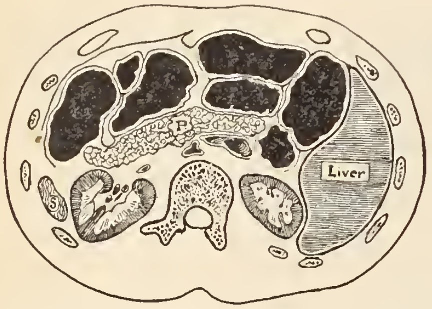

Fig. 11.—Through first lumbar vertebra, great pressure; the intestine (black) is the colon.

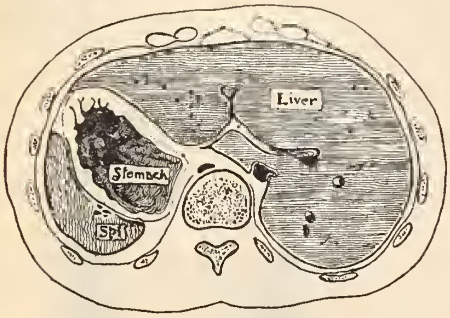

Fig. 12.—Section through epigastrium, area subjected to greatest pressure.

In transverse section the abdominal area at the level of the ensiform (Fig. 12) is normally about twice as great as that at the umbilicus (Fig. 10)—above, deep, roomy, bean-shaped; below, narrowing and contracting to scarcely more than a slit that curves about the broadened mass of the spinal column and psoas muscles.

The corset reverses this. The constriction binds closest the broadest part; the viscera are displaced downward; the lower umbilical region swells out; the greatest area must grow small, and the smallest enlarge.

The point of greatest pressure, we have seen, was over the cartilages. On both sides the liver will be pressed upon, and this at a point where it is covered by lung only during deep inspiration (Fig. 12). The lateral pressure will crowd liver and spleen toward the median line. The stomach will be pinched between its more solid neighbors, though both liver and spleen mold readily under pressure.

Two inches lower, the section (Fig. 11) contrasts strongly with the first. That showed nearly solid viscera; this presents large air-filled spaces. Here the pancreas, kidneys, and a small part of the liver only would receive stress, and they are protected by large air-cushions in front.

Again, two inches lower, the section greatly differs from the second. At this level, that of the navel, there are no viscera, except intestines distended with gas.

So that we find that (1) where the solid organs are, the greatest pressure comes; (2) where the hollow viscera lie, little pressure comes; (3) on organs that are comparatively fixed in their places, much stress is brought to bear; and (4) on organs freely movable, like the intestines, less direct displacing force is exerted.

Effect of Pressure on the Abdominal Wall.—Long-continued compression of the wall of the abdomen in the epigastric and hypochondriac regions gradually brings about a thinning of its adipose layer.* Below the ring of constriction the fat accumulates. The woman who abhors "a stomach" yet adopts the most effective means of cultivating one. Flabby, old, or obese persons are especially prone to pile up panniculus adiposus below the navel. I have examined many stout young men in good condition, and have yet to find one in whom this tendency is evident. On the contrary, the fatty layer above the umbilicus is usually thicker than that below it. These men wear suspenders. In eleven healthy women below thirty who have been in the habit of wearing corsets (of varying degrees of tightness) the fat below the navel has always been found to be more than twice as thick as that above, while one to three is no uncommon ratio. That this is not normal is proved by the fact that in two teachers of gymnastics, measured for me by Dr. Mosher, the fatty layer was thicker above.

The two sections in Fig. 13 speak for themselves. The man and woman were each twenty-one years of age. The woman, Braun says, was well developed and finely formed, and her abdominal wall had never been stretched by a pregnant uterus, as one would suppose at first glance. Above the pubes the wall is four times as thick as it is higher up.

That the compression acts on muscle as well as fat is clear when we call to mind the contrast between the hard abdominal parietes of the average man and the lax belly of most women. How could the gynæcologist make his bimanual were it otherwise? Engel reports cases in which the peristaltic movements could be watched through walls thinned from tight lacing. Of course disuse and the less need of constantly balancing the body has much to do with the atrophy of the abdominal muscles of the female. If

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* First mentioned, I believe, by Larget. "Thèse de Paris," 1827.

Schroeder and his followers are right in attributing the expulsion of the head after it reaches the pelvic floor mainly to these muscles, we must credit the necessity for the use of forceps in a large number of cases to the practice of corset-wearing. It is worth noting that the figure given by Schatz as the intra-abdominal pressure not uncommon in man during straining efforts is nearly the same as the *maximum* pressure in the bladder during expulsive pains (Croom), which the uterine wall has some part in augmenting by its forward displacement.

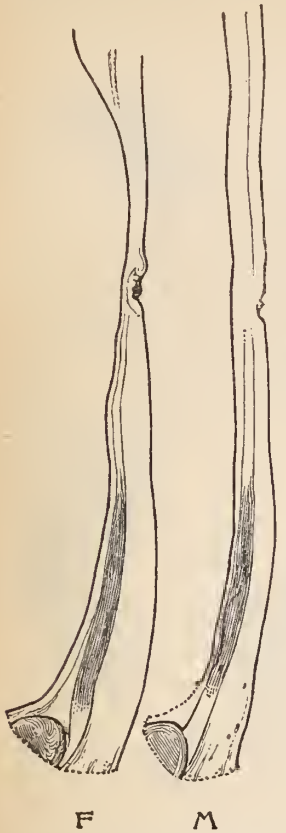

Fig. 13.—Sections of the anterior abdominal wall of the young female (F) and male (M), showing thinning from the pressure of corsets. (Braun, frozen.)

Effect of the Pressure on the Pelvic Floor.—With the corsets snugly adjusted the general cavity of the trunk is cased in walls that are nearly unyielding at all places but two. The ribs, spinal column, and corset-bones sheathe the body as far down as the iliac crests laterally and the hypogastrium in front. Of the supra-pubic projection we have spoken. The other outlet for the pressure is the pelvic floor. It can be studied only in the horizontal position, either by tracings taken from the thin lead strip passed along the groove from symphysis to sacrum and accurately molded, or by measurement of the projection of the floor by the instrument of Dr. Frank P. Foster. This projection is measured on a perpendicular erected on a line joining the tip of the coccyx and the lower edge of the symphysis pubis. In Sims's position, while the patient "has her clothing on but the corset unbuttoned,"* the average projection was determined by Dr. Foster to be 2·5 cm., or one inch. I find that tight lacing increases this projection over one third—the average of 5 cases measured being 0·9 cm. (0·8 cm. minimum, 1·1 cm. maximum). This is twice as much depression as the deepest inspiration causes (0·4 cm.), and often is very close to the *extreme yielding* of the pelvic floor brought about by straining or bearing down, which is in the neighborhood of 4 centimetres, or one and a half inch plus.

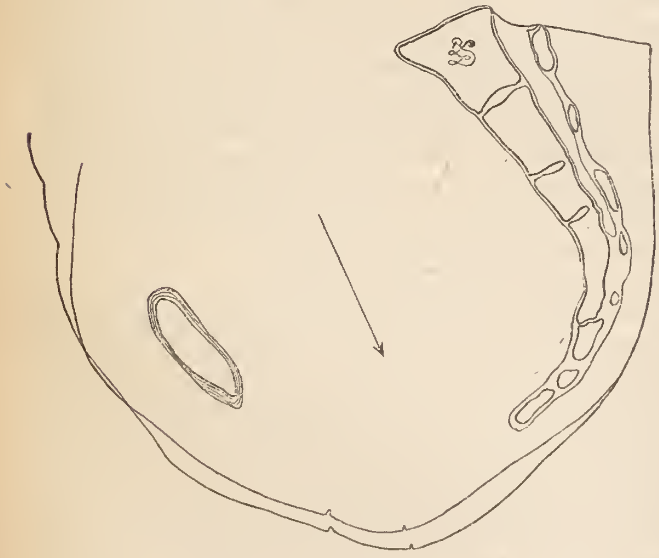

Fig. 14.—Tracing from the pelvic floor with and without corsets.

I quote the figures in a well-marked case (Sims's position):

Pelvic Floor Projection.

	Without corsets.	With corsets tight.
Quiet....................	2·6 cm. (1 inch).	3·7 cm. ($1\frac{1}{2}$ in. scant).
Deep inspiration...........	3·2 cm. ($1\frac{1}{4}$ inch).	4·1 cm. ($1\frac{5}{8}$ in.).
Straining..................	4·0 cm. ($1\frac{1}{2}$ plus).	4·3 cm. ($1\frac{11}{16}$ in.).

I am inclined to believe that after a large number of cases have accumulated I can show that it is those women having roomy pelves, or pelves of less inclination than usual, whose pelvic floors sag most under pressure from above.

Effect on the Uterus.—This displacement of the pelvic floor and this abdominal pressure, acting on a cavity probably governed by the laws of fluid pressure, bear largely on the moot question of the importance of the corset as an agent in producing uterine disease and displacement. I think there can be no question that the uterus must descend with the structures about it. With a corset that is "quite tight," but not so tight as the patient "could bear it, as in a new dress or at a ball," this displacement is a third of an inch. The distance seems insignificant, and may only be considered of importance in view of the following facts:

1. That this is almost the deepest position to which the structures can be forced by straining down.
2. That the long-continued action of the depressing force is exerted during the period of growth.
3. In view of the results likely to ensue in case of weakened and enfeebled supports, in case of increased size and weight of the uterus—normally present during menstruation—and in case of incipient displacement. It naturally follows:
4. That this forcing downward is sufficient to render the uterine supports tense (be they ligament, "column," or pelvic surroundings in toto), and that in their taut condition any extra or added stress, like deep breathing, or exertion, or bending, might well be enough to each time slightly overstrain these stretched supports. Slowly and steadily as this force acts, yielding must in time occur.

In fact, Engel states that in every one of thirty autopsies in which evidences of tight lacing were found, prolapsus was present in some degree, except where adhesions had prevented it.

It might be noted that the ovarian veins, which usually are valveless, run upward into the region of greatest pressure to empty there, and that the hæmorrhoidal branches of the portal vein, which also lack valves, will suffer from the damming back that must be caused by the severe compression of the liver.

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* Letter from Dr. Foster, April 8th.

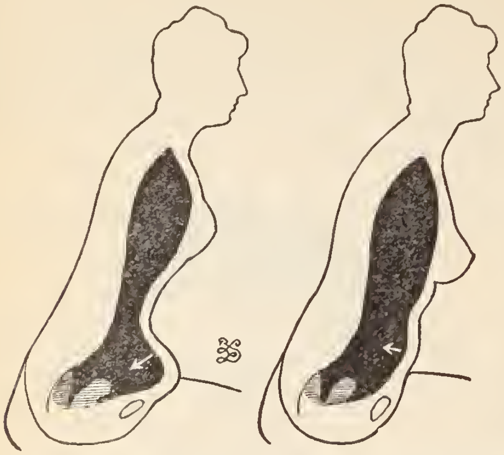

Fig. 15.—The effect of bending forward, when seated, with and without corsets.

The distortion of Fig. 15 does not need much commentary. The more this damsel bends, the greater the downward and backward push of her busk. Will not this account in part for the uterine troubles of women supposed to be due to many of their sedentary occupations, such as sewing-machine work? The man bending forward relaxes his abdominal wall and enormously lowers his intra-abdominal pressure by so doing (Schatz), but the corseted female, who writes or sews, produces the opposite effect. In some cases I have recorded that in this position the pressure over the navel is about double that in the erect position, notwithstanding the abdominal relaxation. The exceptions to this augmentation of pressure are found where the corset-bones are broken or weakened and bend in into the epigastrium, and out again away from the pubes.

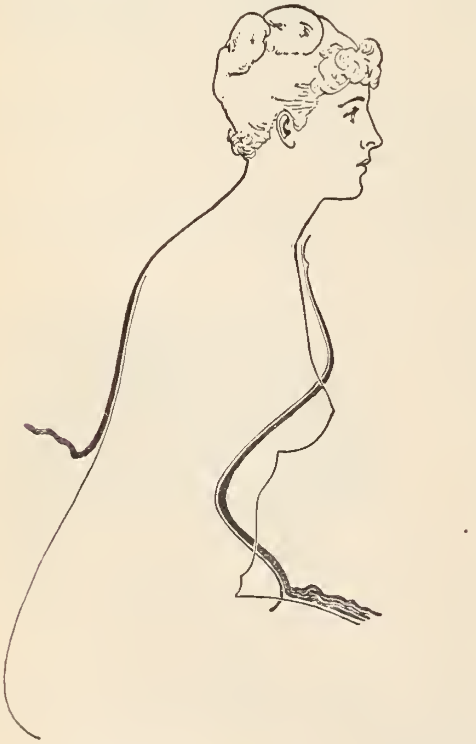

Fig. 16.—The heavy outline with corsets, the thin outline without corsets, the patient seated and bending forward.

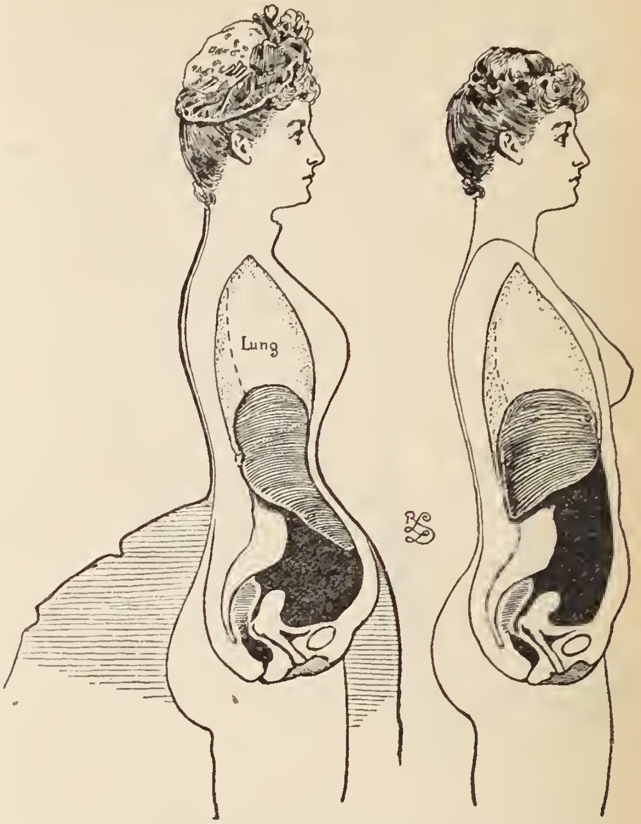

Fig. 17.—The tilting of the liver in certain cases of tight lacing. How the furrow of Fig. 6 is produced.

Effect of the Pressure on the Liver.—In viewing the transverse sections (Figs. 11 and 12) we saw that the zone of most marked pressure was over the liver. Laterally the ribs may be resistant enough to counteract this strain to a considerable extent; but over the cartilages, where the strongest compression of all is exerted, and in the epigastric region, the force must act with greater directness to push the anterior edge downward. Corbin, who has studied this displacement post mortem, states that, as this viscus is fixed behind, its anterior part drops, so that the surface, normally superior and horizontal, becomes anterior and vertical. . . . This effect is constant and is found in all, however loose the lacing may have been."

"On the face that is anterior there exists in most women a transverse depression or gully, more or less pronounced, so marked in some cases that the liver looks almost cut in two. The bottom of this groove is at times whitish in color from thickening of the peritonæum, capsule, and cellular tissue." In the discussion following the reading of this paper instances were cited to show that a habit of wearing about the waist a very tight cord or belt by men will cause like furrows, and that such fissures may result in more or less complete detachment of portions of the organ.

Indeed, Braun asserts that "it is open to proof that the form of the liver is not an independent one, but varies with the pressure and volume of neighboring organs; so that in a normal condition it must possess a softness of structure which can be compared with fat and connective tissue, and which yields to the movements and change of position of the organs in contact with it."

I am the more inclined to believe this on account of the exceeding great blood supply of the organ. It is said to contain about one fourth the blood in the body. This peculiarity would allow of very marked fluctuations in size and in shape. The very distinct fall of the mercury column—one half to one inch and a half—twenty seconds after hooking the corset may be due in part to the liver emptying itself of blood.

The earlier corsets are worn, the more the liver would be affected, since it is proportionately much larger in the child than in the adult. Previous to puberty its weight may be as much as one thirtieth, or even one twentieth, of that of the entire body; in the adult it averages one fortieth.

"The practice of tight lacing," says Murchison, "may cause displacements and malformations of the liver which may simulate enlargement and which are of considerable importance in diagnosis. Tight lacing may act on the liver in three ways—according to the situation, the tightness, and the duration of the constricting cause.

"*a.* The liver may be displaced upward or downward according as the pressure is applied below or above. The precise situation where the pressure is applied will vary with the prevailing fashion of dress; but most commonly in this country the displacement is downward, and this may be to such an extent that the lower margin reaches the ilium, and the liver appears to fill up the whole of the right side and front of the abdomen." [Frerichs and other writers speak of this amount of change in location.]

"*b.* In consequence of lateral compression the liver may be elongated in its vertical diameter so that a larger portion of it is brought into apposition with the abdominal and thoracic walls. This is a very common result of tight lacing" (Figs. 6 and 17).

"*c.* When the pressure is exerted by a tight cord, it may produce deep fissures in the substance of the liver, as the result of which portions of the organ may be more or less detached, and may even be felt as movable tumors through the abdominal parietes."

"Apparent enlargements of the liver from tight lacing are far more common than is generally believed."

Though it is somewhat of a repetition, I must give an epitome of some thirty autopsies that Engel reports.

The lower edge of the liver, he says, is often displaced below the iliac crests. It is nothing unusual to find the fundus of the gall-bladder at the level of the crest. The furrow is often a hand wide. It rarely runs into the left lobe. The portion of hepatic tissue connecting the two parts is scarce over a finger's breadth. Not seldom scar-like bands and obliterated vessels of large caliber traverse the isthmus. Yet adhesions at this point are of the rarest occurrence.

Above the furrow, in the upper division of the right lobe, which is often much thinned from pressure, one sometimes encounters two deep indentations which run from behind obliquely or directly forward. In these the peritonæum and underlying hepatic tissue are normal.

The portion below the transverse groove may be thicker than that above. Its lower edge is blunt and rounded. Behind, it is strongly concave.

The ligamentum rotundum is displaced to the left. These changes are shown in Figs. 6, 7, and 17.

If, from the testimony of these five observers—Braun, Corbin, Engel, Frerichs, and Murchison—the extreme mobility of the liver has been proved, although we grant that these extremes result from tight lacing, are we not justified in believing that even a loosely adjusted corset must definitely displace so mobile an organ? The difference between the loosest corset and the tightest is less than might be imagined. I have not been able to double the pressure on requesting a patient to lace her loose corset to the utmost she could bear.

Engel found the *stomach* displaced in the following remarkable manner: It was shoved to the left. Its long axis, from a horizontal or oblique direction, was changed to a vertical, so that the lesser curvature ran down directly to the left of the spinal column. The pyloric end was depressed as far as the fourth lumbar vertebra. Constriction not unlike the liver-furrow was occasionally met with, but without pathological changes in the walls. The *pancreas* may be dragged down to a perpendicular position on the face of the vertebral column, reaching down to the promontory. These were extreme cases, of course.

A few of the most palpable changes brought about by corset pressure have thus been briefly described. There are many others as much more important as they are more subtle and difficult of proof, such as the disturbances of abdominal circulation, the effect on digestion, the limitation of exercise, and the slowly increasing action on the general health —questions of disturbed physiology which I hope to attack in the future. The necessary observations accumulate slowly. The conclusions reached at this time may be tabulated as follows:

Conclusions.

1. The maximum pressure at any one point was 1·625 pound to the square inch. This was during inspiration. The maximum in quiet breathing was over the sixth and seventh cartilages, and was 0·625 pound.

2. The estimated total pressure of the corset varies between thirty and eighty pounds—in a loose corset about thirty-five pounds, in a tight corset sixty-five pounds.

3. Within half a minute after hooking the corset such an adjustment occurs that a distinct fall in pressure results.

4. The circumference of the waist is no criterion of tightness. The difference between the waist measure with and without corsets gives no direct clew either to the number of pounds pressure or to the diminution in vital capacity. Relaxation and habit seem to affect these factors largely.

5. The capacity for expansion of the chest was found to be restricted one fifth when the corset was on.

6. The thoracic character of the breathing in women is largely due to corset-wearing.

7. The thoracic cavity is less affected by the corset than the abdominal.

8. The abdominal wall is thinned and weakened by the pressure of stays.

9. The liver suffers more direct pressure and is more frequently displaced than any other organ.

10. The pelvic floor is bulged downward by tight lacing one third of an inch (0·9 cm.).

Partial Bibliography.

Bouvier.—"Études historiques et médicales sur l'usage des corsets," "Bull. de l'acad. de méd. de Paris," 1852–'53, 355.

Bouvier et Bouland.—"Corset," "Dict. encycl. des sci. méd.," Paris, 1877.

Winslow.—"Mém. de l'acad. des sciences," 1741.

Soemmering.—"Ueber die Wirkungen d. Schnürbrüsten," 1793.

Engel.—"Wiener med. Wochenschrift," 1860 (529), "Die Wirkungen d. Schnürleibes."

Frerichs.—"Diseases of the Liver."

Mays.—"Therapeutic Gazette," May, 1887.

Murchison.—"Diseases of the Liver."

Walshe.—London "Med. Times and Gazette," 1829.

Sibson.—"Medical Anatomy," p. 962, "Med.-chir. Trans.," 1848.

Croom.—"The Bladder during Parturition."

Schatz.—"Archiv f. Gyn.," iii, 58; iv, 193.

Corbin.—"Des effets produits par les corsets sur le foie," "Gaz. méd. de Paris," 1830.

Foster.—"Am. Jour. of Obstet.," 1870.

Hutchinson, J.—"The Spirometer, the Stethoscope, and the Spring Balance," London, 1852.

CANINE RABIES.

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Observations and experiments on rabid dogs, extending through twenty-five years of residence in India, are the subjects of this article.

These observations have been made on not fewer than fifty non-domestic mad dogs that I have shot, and on some twelve of our family dogs, several of which have been the subjects of experimental treatment.

In 1840 and subsequently, Dr. O'Shaughnessy, one of the professors in the Calcutta Medical College, prosecuted a series of experiments on hydrophobia in human subjects with such patients as presented themselves at the college hospital. *Cannabis indica* was the remedy employed, and with these results: His patients invariably died, but the disease was deprived of its terror and suffering, they having been taken through all its stages with almost complete consciousness, and in a happy frame of mind.

The knowledge of these results led me to institute experiments on dogs, as human subjects did not come within my reach.

My first experience commenced with a mad jackal. We had a favorite family dog—an Irish terrier—and a puppy. On a certain night the dog was repeatedly disturbed by something coming to the house, and the puppy, much frightened, had taken refuge under our bed. I had been out once or twice with my gun, but it was too dark to distinguish anything clearly. At about four o'clock in the morning some animal rushed into the room, followed by the dog, and seized the puppy, which, with a single yelp, fell dead. Then commenced a fearful contest under the bed. The yellings made night hideous. Moved by a frenzy for my favorite dog, I sprang from the bed, seized a heavy bamboo cane, and, with the aid of the night-lamp, crept partly under, and drew a random blow at the head of something, which fell senseless. On dragging it out, it proved to be a jackal. The dog was badly bitten. On a certain day, six weeks after, it had accompanied the children on their customary morning walk, and came in faint and languid, refusing both food and water. As I was absent at the time, my wife had him chained until my return, two days after. I found him greatly emaciated, with a dull, heavy look of the eye, the jaw dropping somewhat, and slight frothing. He had not offered to bite, and had been quiet, with the exception of an occasional moaning howl. I took him out and shot him. He was sensible to the last, answering my call, and giving a shriek of terror when the gun was pointed at him. I came to the conclusion then that I would never again shoot a rabid family dog, unless peculiar circumstances demanded it, without first making it the subject of experiment.

The first experimental case was with two English terriers, bitten by a wandering rabid dog. These cases were so nearly identical in treatment and results that I shall speak of but one. The dog was running by the side of my horse after a shower, when we came to a pool of water in the road. He put his nose to it and shuddered, and as he passed it seemed agitated. On returning home I had him chained, and offered him water and food, both of which he refused. His eyes and countenance assumed that woe-begone expression that we usually see in hydrophobia, and I felt fully satisfied that he was mad. I gave him fifteen grains of *Cannabis indica*, leaf and flower pulverized in a little molasses. This was put into his mouth as it was held open, and he was forced to swallow. In an hour he was thoroughly narcotized. Stertorous breathing continued for some time, after which he became perfectly quiet, the most careful observations only detecting a very slight, quiet breathing. I fancied I had given an overdose, and that he would never rally. The ants gathered, and filled his mouth. After twelve hours' sleep, however, he revived, and seemed none the worse for the narcotism. After a few hours the dose was repeated, with like results—the same deep sleep, and ants returning to their work. After his reviving the second time a cathartic was given, which operated freely, and from that time he slowly regained strength and recovered.

The next cases that came under treatment had different results.

While I was on a visit to Calcutta a friend presented me with a large English bull-terrier. A few days after, on returning home one evening, I found he had suddenly gone mad. A servant had secured him, but not before he had bitten two other dogs. I found him raging, and biting everything within his reach. As no one could approach him with safety, he was shot, no treatment being instituted. The two bitten dogs were taken home and carefully watched, and subjected to preventive treatment. One grain of calomel was given every other day, with an occasional cathartic. After the first month they began to pine, appetite failed, derangement of the bowels with dysentery set in, and both died about four months after being bitten. There were no signs of hydrophobia, and I was in doubt whether they died from the treatment or from the insidious effects of the poison diverted from its ordinary course by it.

The next case of interest was that of two puppies from the same litter. There was no definite knowledge of their having been bitten, but, after their death, it was remembered that they had been worried by a strange dog a few weeks before. One morning we were starting for a picnic three or four miles away, and the young dogs were allowed to go along. As they were running by the side of the horses they were observed to be very frolicsome, biting each other as little dogs are wont to do. Soon it was noticed that their biting was becoming severe, and they made each other cry out with pain. We became suspicious, and watched them. At times during the day they were quiet, sleeping as usual, and then, when brought together, would snap and bite angrily. When we reached home in the evening they were unmistakably mad, dashing about and biting everything within their reach, but still quite under control, a sharp word instantly recalling them to their senses. They were placed in a cage, and carefully fed and watched. They died on the third day, not having had any medical treatment.

The last case I will mention, a recent one, has peculiar interest. We have had for three or four years a large English setter, our favorite house-dog, the pet of the children, noted for his intelligence and goodness, and particularly for his gallantry, usually on the alert to guard on their way home any ladies who might have called in the evening. It was known that he had had a fight with a strange dog that had strayed into our premises, but I had no reason to suppose he was mad. He had been with me for a morning ride, and on coming home he met his mate, a small female terrier, and commenced biting and rolling her over, apparently in play, yet very roughly. I had to speak to him sharply to call him off. An hour later, at breakfast, he was observed to be snapping at the naked legs of the servants as they came about. Suspecting mischief, I had him securely chained. The first sure indication of madness was that, on my presenting my cane near his nose, he seized it violently. Ten grains of extract of *Cannabis indica* were given at once, concealed in a little moistened bread, which he swallowed without difficulty. This was repeated during the day, and again on the day following. As these large doses produced no narcotism, and the extract when old is apt to be uncertain, I regretted that I had not given the plant in substance; but after the first few hours it was not safe to go near him. During the first day he took rice freely, but vomited it immediately. Moistened bread, milk, and water, in small quantities, he took and retained. The only difficulty seemed to be in swallowing. There was a contraction of the muscles of the throat and neck that indicated pain. By the second day the pupils were red, like burning coals, indicating to my mind engorgement of the retina. The general expression of the eye was dull, except when he was aroused and his mouth was dry. The gums assumed a deep blood-red color, gradually deepening so as to look almost black. The voice from the second day decidedly changed to a hoarse, wild, distressed yelp, heard occasionally, and without apparent cause, during day and night. All these indications continued with increasing severity until death, on the fourth day. Consciousness remained complete until near the last. He would recognize and call me at a distance of two hundred feet, and would respond to my call at a greater distance. The disposition to bite violently at anything within reach continued throughout, and no calling would cause him to desist. The strength of jaws was wonderful. I had placed a large deal box on one side to protect him from the sun. He seized the inch-thick board and tore it in pieces as if it had been paper. At times he would regard an object with that earnest, quiet look of watching for game, and seize it with the greatest fury the instant it came within reach. Throughout there were no indications of suffering, except those I have mentioned in connection with swallowing. Death came on gently, without convulsion. A partial post-mortem examination revealed nothing abnormal, except the redness of the gums and a slight enlargement of the parotid gland.

SUMMARY OF SYMPTOMS.—It is worthy of remark that very few of the symptoms of hydrophobia are constant and absolute. They vary largely with the variations of breed, climate, natural disposition, and physical condition. In some animals only one or two may be prominent, while in others they may be more marked and decisive. In dogs of high caste and strong physical development the symptoms are more demonstrative, with a tendency to furor, while the refined and delicate, as well as the weak and imbecile, are likely to be more quiet. The diagnosis must often be made, not so much from the combination of a number of symptoms as from the marked character of one or two. I shall notice such symptoms as I have observed them, and much in the order in which they occurred.

1. *Lassitude.*—For a day or two before the appearance of the more marked symptoms there is usually an expression of weariness. The dog is out of sorts, is easily roused when spoken to, but prefers to remain quiet in a secluded place, and, if undisturbed, sleeps most of the time.

2. *Loss of Appetite.*—He may eat moderately, but does not seem to relish either food or drink, though he swallows both without much difficulty. These symptoms are often accompanied by vomiting, either immediately after eating or after a short interval.

3. *Dread of Water.*—I think the popular idea in regard to this symptom—*i. e.*, as the result of nervous excitement—is an erroneous one. That condition which is supposed to indicate "fear of water" is the result of soreness of the throat, and consequent difficulty in swallowing. I have seen this in a few instances only, and in only one instance have I seen what might be taken for nervous agitation; in that case the symptom was by no means well marked. In most cases water is taken without material difficulty.

4. *Relaxation of the Muscles of the Jaws, giving Rise to a "Woe-begone" Expression of the Countenance.*—This is sometimes accompanied by a discharge of slimy mucus, but oftener by a dry, parched mouth, and in the later stages by a deep redness of the gums and tongue. By the second or third day the more decisive symptoms appear. Reason loses its control. Any one, by observing a healthy dog carefully, may see that every act or motion is dictated by some motive—*i. e.*, he has some purpose in view. The rabid dog may run or walk, bark or bite, but his motions are purposeless.

5. The recognition of rabies by other dogs is a prominent peculiarity. If a truly rabid dog comes about the house, it is pretty sure to be reported at once. There is a yelp of terror from the other dogs such as we never hear under other circumstances, and, though they may be faithful in the contest, yet their peculiar agitation does not cease while their enemy is in sight. This may be accounted for by the strange motives of the rabid animal, much as the presence of an insane person carries terror to many minds. There is a popular notion, of the correctness of which I have not been able to satisfy myself, that dogs detect the condition of rabies by the sense of smell. The test is to induce the suspected animal to swallow a piece of meat with a string attached, and after a moment to draw it up again. If rabies exists, no other dog will touch it; otherwise it will be eaten greedily.

6. I have observed in a few cases a fiery red color of the pupil, like a burning coal, indicating a peculiar condition of the retina, which I have never seen except in rabies, and hence have come to regard this as a symptom.

7. Death within four or five days of the induction of the first or positive stage, or within two or three days from the appearance of the active symptoms, may be regarded as the most important and conclusive sign in our diagnosis of this disease.

Treatment.—A few suggestions on the treatment of rabies may not be out of place.

What is the character of the poison? Does it enter the blood at once, and there remain inert for a season till it has reached its mature stage, like the poison of some other diseases? Or does it remain in the wound until it has reached its maturity? These questions remain unanswered, though each hypothesis has its advocates. In view of our want of definite knowledge on these points, our wisest course is to endeavor to meet both conditions as far as may be practicable. Hence,

1. A person, on being bitten, should instantly endeavor to remove the poison from the wound. If it is within reach of the mouth, suction should be resorted to at once. If it is on a remote part of the body, continued washing, accompanied with pinching and pressing, should be practiced, so as to promote a free discharge of blood.

The next step should be to excite a local irritation in the wound. This may be done by the actual cautery, nitrate of silver, carbolic acid, or, indeed, any irritant that may be at hand. By some means the wound should be kept in a state of inflammation for a month at least.

2. It is said that mercury is a popular remedy among the negroes of the West Indies, though in what form and in what doses I have not been able to learn.

From my earliest Indian experience I have frequently been called upon to prescribe for persons who had been bitten by suspected dogs or jackals. Not being willing to leave such to the influence of their fears, I have adopted the following as a tentative remedy: Calomel in one-grain doses, one dose to be taken every alternate day until ten grains have been taken. The results are, of course, purely negative, but, in the absence of anything more positive, may have some little value. I have prescribed this in perhaps a hundred cases, and in no instance, so far as I am aware, has a person so treated suffered from hydrophobia. One case, or rather collection of cases, was regarded as quite conclusive at the time. A man came in from the country reporting that fifteen men had been bitten in one night by a rabid jackal, and asked for medicine. The necessary doses of calomel were prepared as above mentioned and sent out. Some months after he returned with this report: Fourteen men of the fifteen had taken the medicine and suffered no harm. One man said he did not think the jackal was mad, and declined taking the medicine. He died of hydrophobia. This proves nothing, to be sure, but, in the absence of all proof, I prefer to adhere to this treatment.

3. At the outset of the active form of the disease vigorous and persistent remedial measures should be instituted. Dr. O'Shaughnessy's experiments with *Cannabis indica* clearly show that all distressing symptoms may be prevented by its moderate use, and, if my experience with dogs has any weight, we may reasonably infer that more complete narcotism by that drug might afford still more hope.

At the present state of our knowledge my opinion is that the most profound narcotism consistent with safety to life should be at once induced, and continued as long as possible, in order that the nervous system may be withdrawn from the scene of action and have the most oblivious rest, and thereby allow the poison to become neutralized, or to expend its virulence. I know of no reason why *Cannabis indica* should have the preference over other narcotics and anæsthetics, except that its narcotism may be continued more regularly and with less danger to life.

In conclusion, I would remark that it is of the utmost importance to save persons bitten by suspected animals from the horrors of doubt and suspense. If a dog becomes rabid two or three days after having bitten some one, that person need have no fears of hydrophobia. To kill a dog on suspicion after he has bitten a person is a terrible mistake. That person may, perhaps, be left to groundless horrors of suspense through long and weary months, till life itself becomes a burden. Preventive measures should be undertaken, even on slight suspicion, but the conclusive diagnosis of rabies, in many instances, can not be made without the death of the animal by the natural course of the disease.

The Seventh International Congress of Hygiene and Demography.—It was decided at the meeting recently held in Vienna, for an account of which our readers are referred to our Vienna letter, to hold the next meeting in London in 1891.

REMARKS UPON SPINA BIFIDA;

*WITH THE REPORT OF FOUR CASES.**

By L. EMMETT HOLT, A. M., M. D.,
NEW YORK.

The subject of spina bifida has had fresh interest lent to it since the introduction by Morton of the treatment by the iodo-glycerin solution, and more particularly since the exhaustive report of the committee of the Clinical Society of London in 1885. I desire to put the following cases on record as a small contribution to our knowledge of this deformity and its treatment:

Case I. *Lumbar Tumor, Paralysis; Aspirations; Injection of Morton's Fluid at Six Weeks, followed by Convulsions; Decided Improvement for Two Weeks, then Relapse, and Injection repeated; Death from Convulsions Two Hours Later.*—A male child, fifteen days old, referred to me for treatment by Dr. Gibney, March 15th. No other deformity in the five other children or in the parents. Nothing unusual occurred during the pregnancy. At birth the tumor was of the size of an English walnut. It had grown steadily since that time, and when seen it was as large as a good-sized tomato, measuring two inches and a half by two inches and a half, vertically and transversely, and projecting about one inch. It occupied the lumbar region. The sac was tense, the tumor translucent, no cord or nerves could be seen by the light-test, and the non-tegumentary portion, of about the size of a silver dollar, was ulcerated and covered with granulations. Straining efforts made the sac more prominent, and it was thought that pulsation could be detected. There were evidently paralysis of the rectal sphincter, probably also of the vesical, and incomplete paraplegia. There was no hydrocephalus, and no other deformity. The child was well developed and nursed well.

Elastic compression was applied for a week, but, as the tumor increased in size notwithstanding, at the end of that time I drew off with an aspirator one ounce and a quarter of colorless fluid, this being apparently about one third of the contents of the sac.

Compression was continued for three weeks longer without any manifest result, except that the granulating surface was cicatrizing and smaller. The feet had by this time assumed the position of a marked calcaneus from muscular contraction.

A second aspiration was now performed (April 14th), and three ounces and a quarter were removed, the sac collapsing. The elastic pressure was continued. No reaction followed, but in five days the tumor had nearly regained its former dimensions, and, with Dr. Frank Hartley's assistance, after withdrawing two ounces of fluid, a half-drachm of the iodo-glycerin solution was slowly injected, the child being kept on its back. Bromide and chloral were ordered. General convulsions developed shortly after we left the house, and continued for some hours. They passed away without treatment and did not recur, nor did any inflammatory reaction follow. In four days the tumor was as large as before, but at the end of a week the case looked more promising. The central granulating surface was nearly cicatrized The sac was not so tense; it was thicker, and one side was somewhat shriveled. This improvement continued nearly a week longer, and then the sac began to increase again, and on May 10th the injection of the iodo-glycerin solution was repeated, this time a drachm being introduced. Two hours after, convulsions developed, and continued five hours until death. In spite of the most careful instructions being given about keeping the child absolutely quiet after the injections, this was not secured, which may have been an element in the fatal result.

Case II. *Sacral Tumor; no Paralysis; Cure by a Single Injection of Morton's Fluid.*—This patient was treated in conjunction with Dr. Gibney, who reported the case in full in the "Detroit Lancet" for August, 1885.

It was a first child, a female. The tumor was smaller than the preceding, and was sacral. There was no paralysis. After three aspirations, the last of which removed two ounces of fluid, half a drachm of the iodo-glycerin solution was injected. The patient was now seven weeks old. No reactionary symptoms of any kind followed. In ten days the tumor was reduced to one half the size, and it continued to shrink until, four months later, it was only a hard cicatricial nodule. The child died of cholera infantum five months after the operation, after three days' illness.

Case III. *Brother of the Preceding; Lumbo-sacral Tumor; Paralysis; Death from Convulsions on the Fifteenth Day.*—Eighteen months after the preceding I saw the brother, two days old. He presented a spina-bifida tumor in the lumbo-sacral region, about as large as an English walnut. There appeared to be paralysis of the sphincter ani, as meconium was oozing steadily, and partial paralysis in both legs, to what degree it was difficult to determine. The feet were both in extreme calcaneus, with slight valgus. The thighs were held tightly flexed on the abdomen, and the legs on the thighs. The sac of the tumor was almost perfectly translucent, but no nerves could be distinguished in its cavity.

There was no hydrocephalus or any other deformity. The child was so small and weak that it was decided for the time being to protect the tumor and wait. There was no special change until the fourteenth day. The child nursed fairly well, and was much of the time cross and worrying. The tumor remained about the same, except that the granulating surface over its center was growing smaller. The bowels now only acted twice a day, so that paralysis of the sphincter was somewhat doubtful. On the fourteenth day the child was found in convulsions, temperature 103·8° F., and he died two hours later. No autopsy could be obtained.

I learned afterward that the mother had been quite ill, and was delirious the night before; the child was nursed about that time. Could this have had anything to do with the convulsions?

These two cases are of special interest as being in the same family. A careful search into the family history on both sides revealed the existence of no other congenital deformity. It is worthy of mention that the parents were cousins.

Since the two preceding, the mother has given birth to a healthy, well-formed child, which is now eleven months old.

Demme, in his statistics of fifty-seven cases which came under treatment at the Children's Hospital at Berne, mentions two in which hare-lip was present in the mother, and three in which the father had club-foot, but no cases in which another case of spina bifida had existed in the same family of children, nor do I remember to have seen such a coincidence reported elsewhere.

Case IV. *Sacral Tumor; Rupture of the Sac; Death from Convulsions on the Third Day; Autopsy.*—Two weeks ago there was brought to my dispensary clinic a male child, a few hours old, with a sacral spina-bifida tumor of the size of a small tomato.

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* Read before the New York Clinical Society, September 23, 1887.

From this case the specimen I now present to the society was taken. It was a ninth child. No deformity could be traced in parents, other children, or collateral members of the family. The mother had been attended by a midwife, and the labor was a natural one. The child was large, plump, and otherwise well developed. Its legs were strongly flexed on the thighs, and the thighs on the abdomen. The feet were in calcaneus of a mild degree, the deformity being from contraction of the anterior tibial group of muscles, and readily overcome. The child appeared to move both legs and feet freely. The tumor measured two inches in its vertical and the same in its transverse diameter. Its lower margin was within an inch of the anus. Rupture had taken place in the thin central portion not covered by integument, and from a rent, a fourth of an inch long, a pale, serous fluid was oozing freely. Enough had already escaped to saturate quite a large napkin. Iodoform was dusted over the surface, and a large pad of absorbent cotton and a bandage were applied.

The child was quiet, and showed no irritability or tendency to convulsions.

Arrangements were made to operate upon the child the following morning, but, owing to a mistake in the address given, the patient was not seen again alive. Convulsive movements were noticed on the evening of the second day. The following morning these became severe, and the child died in convulsions when a little over forty-eight hours old.

Autopsy, seven hours after death.—Body well nourished. Over the sacrum was a tumor; sac collapsed and empty, which measured two inches in each diameter. The head was normal in size; no evidence of hydrocephalus; the feet were in slight calcaneus.

Only the lower half of the spine and tumor were examined. The spinal canal was laid open in front, and the sac posteriorly. The following relation of parts was noted: The first sacral vertebra was not bifid. The cord entered the sac at the second sacral vertebra just as it gives off the second sacral nerve. The *dura* in the canal was healthy, and could be traced in front to the lower part of the sacrum, where it blended with the periosteum. The pia in front continued normally to be attached by its processes to the bone. The cord curved backward from the pia as it entered the sac, so that the pia alone formed its anterior wall—*i. e.*, in the median line.

The cord terminated in the canda equina soon after entering the sac, and continued backward free to the central cicatrix; here nerve filaments blended with the other tissues in an indefinite mass, from which again, with tolerable distinctness, nerve filaments could be seen to pass across the wall of the sac to reenter the spinal canal. These afferent and efferent nerves, and the pia they carry with them, formed several septa which composed a smaller sac within the larger one of the spina bifida proper. The sacs seemed to have been very nearly or completely separated, if not originally, at least by inflammatory products, as a layer of lymph and pus was found in the secondary sac, but there were no signs of an inflammation in the larger one. The large sac was very clearly a dilatation of the anterior subarachnoid space, and freely communicated with the same space in the cord above. It did not appear that the smaller sac communicated with the subarachnoid spaces of the cord, although this was not certain.

The membranes lining the sac were, of course, those of the cord. They were congested in the canal, but there was no lymph or pus anywhere, except that in the sac above alluded to. The cord itself appeared normal to the naked eye.

This was, then, an example of meningo-myelocele, the most common variety of spina bifida.

Spina bifida, according to Humphrey, is due to a failure in development early, before the cord is segmentated from the epiblastic layer, from which both it and the skin are formed. The structures which normally develop between the cord and the skin are wanting altogether or rudimentary. We meet with various degrees of segmentation. The membranes only may be protruded and attached to the skin, or the nerves may be in the sac alone or with the cord itself. The cord may run free to the central cicatrix, or it may blend with the sac along its central line. In most of the specimens the fluid has accumulated in the anterior subarachnoid space. It is the general belief that the bifid spine is the result and not the cause of the accumulation of fluid.

In the report of the Clinical Society of London, already referred to, the following anatomical varieties are made:

1. Syringo-myelocele, a dilatation of the central canal of the cord to form the sac of the tumor. This, formerly supposed to be the rule, is now known to be the rarest form.

2. Spinal meningocele, or a protrusion of the membranes alone, the cord and nerves being normal. This is usually found in the cervical and dorsal regions.

3. Myelo-meningocele, a protrusion of the cord (or its nerves) and membranes. This is by far the most common form (32 of 57 cases—Demme), and is the one usually met with in the lumbar and sacral regions.

Without surgical interference of some sort, a fatal termination is almost universal; only a few instances of spontaneous recovery are recorded. It is too rare to be expected in any given case. Of thirty-two patients not surgically treated at the Children's Hospital at Berne, twenty-five died within the first month, and only one lived two years. The causes of death were rupture of the sac, purulent meningitis, marasmus, and complications.

It is generally held that hydrocephalus and marasmus contra-indicate all operative interference. I have seen one child recover where hydrocephalus existed, although it died of the latter disease a few months later. A very bad symptom is the bulging of the anterior fontanelle when the tumor is compressed, and *vice versa.*

Simple meningocele is manifestly more favorable for injection or any other operation than either of the other varieties. It becomes, then, a matter of the greatest importance to make the differential diagnosis, especially between the commoner forms—meningocele and meningo-myelocele. This is in a large number of cases a matter of the greatest difficulty and always of some uncertainty.

The absence of a palpable fissure in the spine, perfect translucency, and a pedunculated tumor, all point strongly to meningocele. Paralysis of the sphincters and the lower extremities, umbilication at the center of the tumor where the cord is attached, a sessile tumor, and the presence of a palpable bony fissure, indicate meningo-myelocele. If the sac is sufficiently thin to permit the cord or nerve trunks to be clearly seen, this, of course, is a demonstration. Translucency I have found not to be of great value; the sac is often so thickened as to make all observation very indefinite, and, on the other hand, when the cord is attenuated from pressure and fused with the sac, its recognition by the light-test is well nigh impossible. Paralysis of the bladder, rectum, and lower extremities—one or all—seems to me the most trustworthy evidence that the cord or nerves are in the sac—to what degree, the extent of the paralysis would probably determine.

There is one point in examination which appears not to be so much made of as it deserves—viz., palpation of the sac after it has been completely emptied by aspiration. In the cases here reported aspiration was practiced a number of times, and in no instance was there the slightest disturbance from it. With ordinary care and clean needles it seems extremely improbable that there should be any, provided the fluid is slowly withdrawn. When this has been done the condition of the bones can be made out with tolerable accuracy, and the cord and nerves can be felt quite as easily as they can be seen by the transmitted light.

There is one anatomical point which should not be lost sight of in making the differential diagnosis in these cases. The cord at birth in a healthy infant reaches only to the bottom of the third lumbar vertebra. A spina bifida occupying the lower lumbar or sacral region would not seem likely to contain any part of the cord. But in this deformity the adhesion of the cord or its terminal nerves to the central cicatrix prevents it from rising, so that it often extends some distance into the sacrum, as in the last case reported.

Of twenty-five patients operated on in the Berne Hospital, seven recovered, fifteen died, and three left the hospital not cured.

The Clinical Society's "Report" gives the mortality of cases treated by Morton's iodo-glycerin solution at between 50 and 60 per cent.

Time and a wider experience are necessary before we can arrive at a proper estimate of this operation. This can only come when its failures as well as its successes are recorded.

15 East Fifty-fourth Street.

Correspondence.

LETTER FROM VIENNA.

The Sixth International Congress of Hygiene and Demography.

Vienna, *October 6, 1887.*

During the past week our beautiful *Kaiserstadt* has been not only the scene of earnest scientific work, but also the center of varied and splendid festivities which gave it an exceptional charm. About 2,346 persons from the various quarters of the world were assembled to take part in the discussions on hygiene and demography. Men like Virchow, Pettenkofer, and Brouardel must indeed have proved a powerful attraction to those who thought of attending, but undoubtedly not the least of the attractions was *das schöne Wien*. The weather was favorable during almost the entire session, and was particularly charming on the opening day, when the illustrious patron of the congress, the Crown Prince Rudolphus, declared the meeting opened. The splendidly decorated *Musikvereinssaal* was crowded to overflowing with those who were desirous of attending the opening ceremony. The ladies of the members' families had gathered in the galleries, and the aspect of the imposing number of those present—among whom were representatives of the foreign diplomatic corps, the ministers of the Empire, and the most distinguished scholars of our profession —was very interesting and attractive, especially by reason of the presence of numerous beautiful ladies in their festival dresses. Among the representatives of our profession I may mention Virchow (Berlin), Pettenkofer (Munich), Brouardel (Paris), Frankland (Reigate), Douglas Galton (London), Westphal Bull (Paris), Janssens (Brussels), Lacassagne (Paris), Lépine (Paris), Jahnson (St. Petersburg), Boeckh (Berlin), Köhler (Berlin), Lumnitzer (Buda-Pest), and Luizianan (Mexico). At eleven o'clock the Crown Prince, conducted by Professor Ludwig, the president of the congress, and Professor von Gruber, the general secretary of the organizing committee, entered the room, and was received with enthusiastic and repeated cheers. Professor Ludwig, addressing the Crown Prince in the name of the organizing committee, said that, only ten years before, the first international health congress had been held, in Brussels, under the patronage of His Majesty the King of the Belgians, and that the congresses of Paris, Turin, Geneva, and the Hague, and at length the sixth, in our beautiful capital, had succeeded each other rapidly. The fact that scientific men from almost all the civilized countries of the globe had gathered together for earnest work in common, governments and communities having sent more numerous representatives than ever before, was highly satisfactory evidence that the recognition of the great importance of the science of hygiene was making continual progress. Could it be otherwise? Hygiene and demography had undertaken the task of inquiring into and combating the social evils which our century had especially produced in so high a degree, by means of exact scientific methods; and in both directions permanent and important successes had been obtained. These congresses had been characterized by a special happy feature of our modern times, that of subjecting to common investigation questions in which all mankind were interested; they aimed at advancing science and at spreading interest in hygiene by the personal interchange of opinions. Following its traditions, the congress would at its present session submit for discussion a series of important questions in the domain of hygiene and demography—questions that had been most carefully prepared by prominent men. Taking into consideration this preparatory work, together with the high scientific position of the participants in the meeting, we might hope with confidence that this gathering also would contribute much to the solution of questions of very great importance to mankind. The president then thanked the Crown Prince for the dignity with which he had invested the meeting by charging himself with its patronage, whereby the aspirations of those assembled had been highly encouraged.

The Crown Prince, in his turn, assured the assemblage that he considered it an honor and a joy to be at the head of the Sixth International Congress of Hygiene and Demography. The most precious capital of nations and societies was the human creature, and to keep men sound as long as possible was not only a command to humanity, but also the duty of communities in their own interest. The work of those present had to do with the house, the school, the village, the town, war, the industries, etc.; that fact, together with the participation of such illustrious representatives of all nations, was an evidence of the really international importance of hygiene. It was a great source of satisfaction to him to have the opportunity of saluting the members in Vienna, a city which was a center of animated scientific work and earnest investigation.

Dr. Köhler, director of the German sanitary board, and Professor Brouardel, of Paris, saluted the patron and the congress in the name of the German and French governments, after which Professor Brouardel read an elaborate paper "On the Different Ways of Propagation of Typhoid Fever." He discussed the most recent observations that had been made upon this subject and the deductions to be drawn from them, his purpose being to show that it was possible to make the disease much more infrequent and even very rare. It was spread by means of drinking-water, the air, polluted clothing, and the hands of nurses. This had been known to Hippocrates, Van Swieten, and all epidemiologists of past centuries, but it was not until the present time that we had known the part that each of these factors played. An epidemic prevailed in Geneva in 1884, and its increase and diminution corresponded exactly with the different water-supplies of various parts of the town. It decreased decidedly in October, and assumed a greater intensity again in November and December. A single village in the neighborhood, Mont-Ferrand, presented the same conditions, while two adjoining villages, Royat and Chamalières, were entirely free from the disease. Mont-Ferrand was supplied with water from the same spring as Clermont-Ferrand, but a cloister at Clermont, which had a spring of its own, had only one case of typhoid fever—that of a person who had visited his relations in the town. It was known that Paris was in part supplied with excellent drinking-water, but, owing to its insufficiency, the water of the Marne, the Seine, and the Ourcy Canal had to be resorted to. On the 20th of July, 1886, such an occurrence took place, and a week later the number of those affected with typhoid fever was four times as great as before. On the 7th of August recourse to the streams mentioned was discontinued, and the effect was seen at once in a rapid decrease of the epidemic. A like occurrence was observed in the month of January of the current year. There was still another way in which it was strikingly shown that the drinking-water was the chief source of dissemination of typhoid fever. Régnier had registered the cases in the different *casernes* of Paris, and had observed that in the newly constructed *caserne* of Château Sardon, in which the soldiers drank the unfiltered water of the Marne, the number of cases amounted to 17 per cent., while in the old *caserne* of Jean Jacques Rousseau, which was supplied with good Baune water, they amounted to only a tenth of one per cent. Since the new *caserne* had been supplied with spring water, in 1886, the number of cases had amounted to only 2 per cent. As to Pettenkofer's theory, that the prevalence of typhoid fever varied with the level of the underground water, there was a good deal of truth in it, but it was still far from complete. Direct contagion also could not be doubted, but its occurrence was relatively rare. But these generalizations were not enough; we ought always to be able to draw practical conclusions from scientific investigations. Ninety times in a hundred cases it was the drinking-water that was at fault, and it was our duty to guard it against pollution. Fortunately, this was far easier than if we had to prevent the air from "licking up the polluted dejections."

Professor Pettenkofer, the famous German hygienist, then mounted the tribune, and was greeted with hearty applause, even before he had begun his address on the teaching of hygiene. The paper contained numerous important features referring to instruction at universities and in high schools. For lack of space, however, I shall have to defer more detailed mention of it, as well as of the work in the sections, until I write again. It closed the first general session, and then several of the distinguished physicians present were presented to the Crown Prince. In all, there were two general sessions and four meetings of sections, lasting four days.

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IS TUBERCULOSIS INFECTIOUS?

BY a number of carefully conducted experiments, M. Cadéae and M. Mullet have undertaken to determine if the air expired by patients suffering with pulmonary tuberculosis can produce the disease by inhalation or by inoculation. They publish an interesting account of their experiments in a recent number of the "Revue de médecine." The method which they adopted in the first series of experiments was as follows: A caoutchouc bag, having a capacity of from forty-five to fifty quarts, provided with a stop-cock, was partially filled by being breathed into by a patient in an advanced stage of phthisis. It was then filled to its utmost capacity with pure air, and in that way a vitiated atmosphere was created like that which is usually to be found in a phthisical patient's room. Rabbits, the susceptibility of which to tuberculosis is well known, were made to breathe in the air contained in the bag for an hour or two hours every day, by means of a certain muzzle fashioned after the mouth-piece of Paul Bert's anæsthesia inhaler. This was repeated for several days, and the three rabbits upon which the experiments had been performed were killed after the lapse of from twenty to forty days, and their organs examined. The results were entirely negative; all the viscera were found perfectly healthy. In another series of experiments, rabbits affected with catarrhal bronchitis were treated in the same way, but in them also the results were negative.

The objection might be raised that in these experiments the degree of infection of the mixed air was variable and the exposure too limited in duration. To exclude this source of fallacy, a third series of experiments was undertaken. A small box was divided into two compartments in such a way that animals put into the two compartments had to breathe the same air, but could not come into bodily contact. Rabbits in which artificial tuberculosis had been produced were put into one of the compartments, and guinea-pigs affected with induced bronchitis were placed in the other. Thus, for periods of two or three months, the non-tuberculous guinea-pigs had to inspire the emanations from nineteen tuberculous rabbits; yet not one of the guinea-pigs showed any signs of tuberculosis, either during its life or after being killed. In a fourth series of experiments, the vapor contained in the expired air of phthisical patients was condensed, and the resulting liquid was injected under the skin in rabbits, with antiseptic precautions. Twelve rabbits were thus treated, and the results were negative in all, with a single exception; in the rabbit that proved the exception, two gray granulations, of the size of a pin's head, were found in the left lung. Thirteen guinea-pigs were treated in the same way, and in none of them did infection take place.

The authors pushed their experiments still further. There were two wards in the hospital, one of which was 120 feet long, 24 feet wide, and 21 feet high, containing about forty consumptive patients, and the other was 105 feet long, 18 feet wide, and of the same height as the first, having about twenty-nine patients. The majority of the patients expectorated freely, and no precautions were taken with regard to the sputa. Several of the patients were in such an advanced stage of phthisis that they had to keep their beds constantly. Air collected from these wards, quite close to the beds occupied by patients, was subjected to condensation of its aqueous vapor, which was used in the same way as in one of the other series of experiments. Twelve guinea-pigs were employed in these experiments, and the results were negative in all but two of them. In one of these two, a few small gray granulations, containing tubercle bacilli, were found in one of the lungs; in the other, there were numerous foci of tubercular granulations in both lungs and in some of the glands of the body.

Although these experiments do not entirely disprove the infectiousness of tuberculosis, it must be said that they afford strong presumptive evidence of the innocuousness of the air expired by consumptive patients. The two instances of positive results obtained in the last series of experiments emphasize the necessity of disinfecting the sputa of phthisical patients, whether in a large hospital ward or in small apartments occupied by the sick and the healthy.

RHAMNUS FRANGULA AND CASCARA SAGRADA.

We have been favored with advance proofs of an editorial article for the November number of the "American Lancet," of Detroit, in which the author takes the well-known manufacturing pharmacist, Dr. Edward R. Squibb, of Brooklyn, severely to task for his animadversions upon other pharmaceutical manufacturers for "florid advertising," and implies that such criticisms ill become one who has done so much adroit and effective, although disguised, advertising as, the article alleges, Dr. Squibb has done for years. Dr. Squibb's course, the "Lancet" thinks, has been designed to make the medical profession believe that, in not advertising in medical journals or by traveling agents, he has been actuated by ethical motives, whereas he has really only adopted what was to him, a member of the profession, a cheaper and more telling system of advertising his wares by reading papers at medical meetings and by means of his "Ephemeris." The writer cites instances in which Dr. Squibb's published statements seem to imply an intolerance of competing manufacturers, and to have been intended to create the impression that they were not pursuing their business with that strict regard for the advancement of scientific pharmacy that he has generally been credited with. Some of the passages cited from Dr. Squibb's writings may be held to justify this interpretation, and even to show that he considers the medical profession less independent of advertisers' statements than it ought to be in coming to conclusions concerning the comparative merits of different drugs and pharmaceutical preparations. For many readers, it will be difficult to determine whether or not Dr. Squibb intended to convey these impressions, or to what degree if at all he may have had them in mind when he wrote. For our part, we should be sorry to think that he deliberately took such a position, but we will say that we think it an error to take it for granted that a pharmaceutical manufacturer who is not a physician, and who advertises his products through the usual trade channels and submits them to the medical profession in fair and open competition with others, is necessarily less worthy of esteem and confidence than a pharmacist who happens to have been a medical practitioner, and who chooses to forego all forms of advertising except those which his connection with the medical profession affords.

The "Lancet's" article appears to have been called forth by remarks that were published in the October number of the "Ephemeris," relating to the comparative value of *Rhamnus frangula* and *Cascara sagrada*. Dr. Squibb thinks that one or the other of these trees is superfluous as an article of the materia medica, and he intimates that the choice ought to be given to the *Rhamnus frangula*, although he states that its bark has to be given in rather larger doses than that of the *Cascara sagrada*. So far as it goes, that fact would seem to the ordinary mind to favor the adoption of *Cascara sagrada*, but Dr. Squibb makes other statements which go to show that a better quality of rhamnus bark is generally obtainable than of cascara bark. However, he has had fluid extracts of the two barks made by the same process, one that he regards as the most suitable, and has placed specimens of them "in the hands of many close and careful observers who are as little prejudiced as may be by the florid advertising which one of the agents has received." He hopes that their observations will lead to conclusive testimony as to the comparative value of the two drugs. We hope so too, but we should have been rather more hopeful if Dr. Squibb had seemed to feel confident that he had furnished the products to men altogether unprejudiced. We have not the slightest doubt that plenty of such men could have been found.

MINOR PARAGRAPHS.

THE CASE OF THE CROWN PRINCE OF GERMANY.

Like the Garfield case and the Grant case, that of the German Crown Prince derives none of its medical interest from the exalted station of the sufferer. Indeed, except for its having afforded a shining example of Sir Morell Mackenzie's operative skill and an occasion for Virchow to make certain statements concerning pachydermia laryngis, it is of no interest whatever to medical men. Recently, however, an ethical question, purporting to be founded on an alleged slight to the Prince's German physicians, has been raised in a stupid anonymous communication addressed to the editor of the London "Times." The allegations and insinuations contained in the letter are really too destitute of foundation to call for even a summary in our columns, and we mention the matter only that we may express our gratification that one of Sir Morell Mackenzie's colleagues in laryngology, Mr. Lennox Browne, has most loyally and conclusively set the question at rest in a letter likewise published in the "Times."

THE NEW YORK QUARANTINE.

A report lately made at a meeting of one of the Philadelphia medical societies contained corroborative evidence of the existence of the defects recently reported to the Medical Society of the County of New York by Dr. John C. Peters, of the committee on hygiene. This is only one of a number of indications that the people in various parts of the country are beginning to realize the importance of the best possible management of sanitary matters at the chief ports of entry. Perhaps, therefore, the shortcomings that have been pointed out, and that seem to be incurable under the present state of things, may before long be remedied by the quarantine being taken out of the hands of the State of New York, and its control assumed by the General Government.

A PIECE OF NEWSPAPER EFFRONTERY.

An outrageous prostitution of the columns of one of the New York newspapers in the interests of a nostrum and at the expense of a member of the medical profession has been brought to our notice. A lecture having been given by the physician before an educational association, a cunningly prepared article purporting to be a condensed report of what he said, embellished with a wretched woodcut portrait of the lecturer, was inserted among the reading matter, the latter part of the article being a fulsome laudation of a certain nostrum. While it is not specifically stated that the lecturer gave utterance to any such nonsense, it was plainly the writer's intention that the readers of the newspaper should infer that that was the case. No member of the profession will be deceived, but probably the majority of readers really believe that a reputable and distinguished physician said just what the article was concocted to imply that he said. The affair is exceedingly discreditable to the newspaper in question, and we trust that means may be found to show newspaper men that it is at their peril that they take such liberties with the rights of individuals.

THE FOREIGN VISITORS AT THE NINTH INTERNATIONAL MEDICAL CONGRESS.

Our general impression has been that, on the whole, the foreign gentlemen who attended the recent Washington meeting of the congress found themselves very comfortably provided for. We are glad to see this impression corroborated by a writer in the "British Medical Journal," who speaks particularly of the excursion to Niagara. It is amusing to observe, however, that he should have considered it worth mentioning that some of the party found to their cost that the hotel bedrooms at Niagara Falls were not safe places of deposit for purses and the like. The fact that they labored under the contrary supposition seems to show that they are not yet in a condition to dispense with the paternal government that in this country is considered superfluous.

ITEMS, ETC.

The Medical Jurisprudence of Inebriety is announced as the subject for discussion at the next meeting of the Medico-legal Society, to be held at the Buckingham Hotel next Wednesday evening. Papers by Dr. Norman Kerr, of London, Dr. Joseph Parrish, of Burlington, N. J., Dr. T. D. Crothers, of Hartford, Conn., Dr. Wright, of Bellefontaine, Ohio, Dr. E. C. Mann, of Brooklyn, Dr. C. H. Hughes, of St. Louis, and Mr. A. R. Dyett, Mr. Clark Bell, and Mr. W. J. Mann, of New York, are expected to be read.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 1, 1887:

DISEASES.	Week ending Oct. 25.		Week ending Nov. 1.	
	Cases.	Death	Cases.	Deaths.
Typhoid fever	30	6	31	8
Scarlet fever	59	11	64	12
Cerebro-spinal meningitis	2	2	6	6
Measles	16	1	30	3
Diphtheria	105	24	131	49
Small-pox	3	1	1	1

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 23 to October 29, 1887:*

Greenleaf, Charles R., Major and Surgeon, will proceed from this city to the places hereinafter named, in the order in which they are named, for the purpose of investigating the methods of examining recruits at the depots and rendezvous located thereat, and of instructing recruiting officers in matters pertaining to such examinations: Baltimore, Md.; Philadelphia, Pa.; Camden, N. J.; New York City and David's Island, N. Y.; Boston, Mass.; Portland, Me.; Albany and Buffalo, N. Y.; Cleveland, Ohio; Detroit, Mich.; Chicago, Ill.; Milwaukee, Wis.; St. Paul, Minn.; Jefferson Barracks and St. Louis, Mo.; Cincinnati and Columbus, Ohio; and Pittsburgh, Pa. S. O. 248, A. G. O., October 25, 1887.

Cleary, P. J. A., Major and Surgeon. Ordered to proceed from Fort Huachuca to Fort McDowell, and report to the commanding officer for duty as post surgeon. S. O. 111, Department of Arizona, October 18, 1887.

Brown, Paul R., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 250, A. G. O., October 27, 1887.

Burton, H. G., Captain and Assistant Surgeon. Ordered from Plattsburg Barracks, N. Y., to Watervliet Arsenal, N. Y. S. O. 249, A. G. O., October 26, 1887.

Merrill, J. C., Captain and Assistant Surgeon. Ordered from Watervliet Arsenal to Frankford Arsenal, Pa. S. O. 249, A. G. O., October 26, 1887.

Richard, Charles, Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect when his services can be spared by his post commander. S. O. 247, A. G. O., October 22, 1887.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. Ordered for field duty in the Department of the Platte. S. O. 246, A. G. O., October 21, 1887.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. Ordered from the Department of the Platte to the Department of the Missouri for duty in the field. S. O. 249, A. G. O., October 26, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending October 29, 1887:*

Bailhache, P. H., Surgeon. To proceed to Buffalo, N. Y., Erie, Pa., Ashtabula, Cleveland, Sandusky, and Toledo, Ohio, as inspector. October 14, 1887.

Fessenden, C. S. D., Surgeon. Detailed as chairman of board for the physical examination of cadets, Revenue-Marine Service. October 15, 1887. To proceed to Cape Charles Quarantine Station as inspector. October 26, 1887.

Sawtelle, H. W., Surgeon. Detailed as chairman of board for the physical examination of officers, Revenue-Marine Service. October 27, 1887.

Irwin, Fairfax, Passed Assistant Surgeon. To inspect unserviceable property at Boston, Mass., and Portland, Me; to proceed to Vineyard Haven and New Bedford, Mass., as inspector. October 8, 1887.

Mead, F. W., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of cadets, Revenue-Marine Service. October 15, 1887.

White, J. H., Passed Assistant Surgeon. Leave of absence extended four days. October 21, 1887.

Carrington, P. M., Assistant Surgeon. Detailed as recorder of board for the physical examination of officers, Revenue-Marine Service. October 27, 1887.

Fattic, J. B., Assistant Surgeon. Granted leave of absence for seven days. October 28, 1887.

Pettus, W. J., Assistant Surgeon. When relieved at Savannah, Ga., to proceed to Galveston, Texas, and assume charge of the service. October 17, 1887. Granted leave of absence for thirty days. October 21, 1887.

Kinyoun, J. J., Assistant Surgeon. Granted leave of absence for fifteen days. October 19, 1887.

Society Meetings for the Coming Week:

Monday, *November 7th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society; Tri-States Medical Society (Memphis).

Tuesday, *November 8th:* New York Medical Union (private); Medical Society of the County of Rensselaer N. Y.; Newark, N. J. (private), and Trenton, N. J. (private), Medical Associations; Medical Society of Camden County, N. J. (semi-annual—Camden); Norfolk, Mass., District Medical Society (Hyde Park).

Wednesday, *November 9th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York: Medico-legal Society; Medical Society of the County of Albany, N. Y.; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society.

Thursday, *November 10th:* New York Physicians Mutual Aid Association (annual); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private—annual); Pathological Society of Philadelphia.

Friday, *November 11th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *November 12th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

William M. Chamberlain, M. D., of New York, died at Summit, N. J., on Monday, October 31st. He had been in poor health for a number of months, and his death was not unexpected. The deceased was a native of New Hampshire, and received his degree from the medical department of Dartmouth College in 1853. At different times he practiced medicine in Concord, N. H., and in Hartford, Conn. In 1863 he came to New York, where he succeeded in acquiring an excellent practice, and where he occupied a number of honorable positions. At the time of his death he was sixty-one years of age. Dr. Chamberlain was highly esteemed in the profession, both for his attainments as a physician and for his qualities as a man.

Letters to the Editor.

THE PREVENTION OF PUERPERAL FEVER.

104 East Seventy-fourth Street, *October 21, 1887.*

To the Editor of the New York Medical Journal:

Sir: Dr. B. A. Watson, in his article on "Septicæmia" in Pepper's "System of Medicine," recommends, "in all cases where there is reason to anticipate the development of septic diseases, the administration of the alkaline sulphites or hyposulphites as soon after the receipt of the injury as practicable." I would suggest the applicability of this treatment to cases of confinement as a preventive of puerperal fever—that is, the administration, as routine treatment, of small doses of the sulphite of sodium for the first five days after labor.

David Phillips.

THE ABORTIVE TREATMENT OF GONORRHŒA.

New Haven, Conn., *October 31, 1887.*

To the Editor of the New York Medical Journal:

Sir: With your permission I will answer through your columns the letter of Dr. A. F. Currier in the October 29th number of your Journal. I have for the first time *to-day* carefully read the very excellent paper by Dr. Currier on "Gonorrhœa in the Female." Before writing my paper on the "Abortive Treatment of Gonorrhœa," I read only such parts of his paper as pertained to abortive treatment. My error in quoting him as using a 60-per-cent. solution, instead of a 60-grain-to-the-ounce solution, of nitrate of silver, occurred in copying manuscript from notes, and I hereby express my regrets for such misquotation.

Dr. Currier's allegations of unacknowledged "borrowings" from his papers are wholly without foundation. I quoted once or twice from authors he had quoted, which unavoidably gives similarity.

For instance, he quotes largely from Sänger, while I attended Sänger's lectures and clinics for one year.

If I appropriated any of Dr. Currier's own ideas without acknowledgment, I wish that he would point them out. If I had read his entire paper, I should certainly have quoted from it, but *with* acknowledgment.

O. T. Osborne.

THE NEGLECT OF HOSPITAL ATTENDANCE BY MEDICAL STUDENTS.

New York, *October 29, 1887.*

To the Editor of the New York Medical Journal:

Sir: I hope that you will allow me a little space in which to reply to the letter of "A Traveler from New Zealand," which appears in your issue to-day. I fear that, like most travelers, he took only a superficial view of the novelties that he observed on his tour. He seems to have inferred that because he observed a small number of students attending a clinical lecture in one hospital, therefore clinical teaching is defective or omitted in our medical schools. This is what we call generalizing from insufficient data.

I have been long connected with the cause of medical education here, and long identified with medical teaching, and I think I am speaking within the bounds of truth when I say that to medical students there is offered good clinical material well worked up. It is offered to them in various hospitals, and, as your correspondent says, without price. In this fact, that it is given without price, lies, in my judgment, its greatest weakness. Anything that the student pays for he is likely to appreciate, and conversely that which he receives gratuitously, he is not likely to consider of value. Again, the clinical teachers who are working without salary lack the chief incentive to regularity and painstaking work. The teachers who give didactic instruction in our schools are nowhere adequately compensated for their time, talents, and experience, if we compare their incomes with those of teachers in other branches of science in endowed institutions of learning in this city. In fact, these medical teachers are often forced to eke out a scanty income by engaging in other work besides their teaching—often work of a character not allied with the subjects which they teach, and not at all congenial to them. It would therefore be manifestly unfair to ask them to surrender a part of their income in order that it might be devoted to the improvement of clinical facilities. Where, then, are we to seek relief? Whence is assistance to come?

At present medical education here is upon the same plane as all the other commodities which the New York market affords. Its supply, both in quantity and in quality, is regulated by the demand for it. The public does not demand here a high grade of medical education in the sense in which that is understood in Europe, but it is safe to say that the public gets all that it demands and all that it pays for. But those of us who know what medical education in Europe is have long since thought that the public should receive *more than this.* The public does not know what it should demand in matters of science. Nowhere in the world does science flourish where its supply is regulated by the popular demand for it. Like art, science must be fostered, especially in a young country like ours. *We must have endowments* if we would make good doctors. Nowhere in this city is there an endowed medical school, or even a single endowed chair in a medical school; and nowhere in the world is medical education on a higher plane than it is here, except where handsome endowments exist to foster it.

It is a singular fact that men of wealth and judgment have only within a few years thought it desirable to help medical education *in any way;* but thus far not a single professorship has been endowed in this city among the medical colleges.

Good buildings are very useful—are indeed a primary necessity, of course; but good buildings without an adequate endowment are like a steamship at sea without coal or food. We are doing the best that we can now with sails; but the craft is heavy and the progress is necessarily slow, and, moreover, we are all very hungry.

Although your correspondent from New Zealand seems to have been guilty of hasty generalization, I must admit that he has touched upon a tender spot in our medical organism. Clinical education *is* defective here.

Graded courses do not exist in medical colleges; and until medical colleges are endowed here his strictures will be likely to apply to us with unpleasant force. Clinical teaching is *offered;* but clinical knowledge is *not exacted* of a candidate for a degree, as proved by a clinical examination.

John Smith, M. D.,
Professor, etc.

New York, *October 29, 1887.*

To the Editor of the New York Medical Journal:

Sir: I notice in your Journal, received to-day, an article by "A Traveler from New Zealand" on the "Neglect of Hospital Attendance by Students." It is to be hoped that our foreign friend has since visited our post-graduate and polyclinic schools, where the aim is clinical teaching throughout, and also the wards of Bellevue Hospital, where clinical teaching to a limited number of students is carried on throughout the teaching sessions of Bellevue College and the medical department of the University of New York. There are also classes of various sizes held by the younger members of the profession connected with different dispensaries in this city; and the amphitheatres of many of our hospitals are open to students, who attend surgical clinics.

In the Long Island College Hospital the students are daily in contact with the sick, studying every phase of disease, and they are graduated on their knowledge in the practical examination and treatment of patients.

We can not, however, close our eyes to the fact that in New York medical teaching is very largely didactic, and that students do not, except to a very limited degree, avail themselves of the clinical material in our hospital wards. There are several reasons for this neglect of teaching at the bedside, among which we may enumerate: 1. That students have been for so long a time drilled in didactic teaching at the expense of clinical work. 2. That medical clinics in the amphitheatre are practically the same as didactic teaching, the classes being so large that those in the front seats only can avail themselves of the signs and symptoms elicited. 3. That students are graduated after an examination on the didactic instruction, and not on their knowledge of the art of medicine as taught at the bedside. And we might further add that clinical teaching has been prohibited by the governing boards of many of the institutions for the sick in New York. The clinical material in hospital wards in New York is ample for the thousands of medical students yearly studying for degrees, but on the one hand that material ought to be thrown open more freely for clinical purposes, and on the other hand students ought to be taught to appreciate its value. The best way to stimulate interest in clinical study in the student is not by an eloquent discourse on signs and symptoms and morbid conditions, but by making him, under competent supervision, elicit signs and symptoms for himself and accustom himself to the treatment given; and, in the event of death, making him conduct the autopsy in a systematic way, under competent supervision.

To replace, in a measure, didactic by clinical teaching will necessitate radical changes in our present methods of teaching medicine in New York. No one man can hope to teach the *art* of our profession successfully, in any of the practical departments of medicine, to five or six hundred students.

To increase our staff of teachers in medicine, to divide the classes of students into sections, to seek to render the material of all our hospitals available for clinical purposes, and to make the practical examination and treatment of patients *a necessary feature of the examination* for the degree of doctor of medicine, seem to be propositions the importance of which is self-evident, if we would insure a thorough drilling in the art of medicine for medical students.

Duncan Ross.

Brooklyn, *October 29, 1887.*

To the Editor of the New York Medical Journal:

Sir: I have just received your Journal of to-day, and have read the letter from "A Traveler from New Zealand" in reference to the neglect of hospital attendance by medical students in this country. The writer of that letter criticises most severely medical education as he professes to have seen it in New York city, and, from his observation of medical schools and medical students in that one city, condemns *in toto* medical education throughout the United States. Whether it is true, as he alleges, that it is not only possible but a matter of frequent occurrence in New York for students of medicine to receive their degrees without ever having seen a patient, I do not know. That is a charge which the New York schools can best answer, but I do know that it is not the fact at the Long Island College Hospital, and had your correspondent crossed the Brooklyn Bridge I am sure he never would have written the letter which appears in your issue of to-day, or, if he had, would have excepted this college from the medical schools in which didactic teaching is solely relied upon, and clinical teaching considered of no account. Had he visited the Long Island College Hospital, he would have found a class of one hundred and thirty students spending a large part of each day in direct contact with hospital patients, seeing in the course of their three years of study every form of sickness and injury over and over again, and having opportunities to study these cases in every detail. He would also have seen abundant opportunity for the study of practical obstetrics, some of the students witnessing twenty confinements before they receive their degrees. It is true that, situated as most colleges are, this is not possible in them all, the college buildings and the hospitals not being under the same roof, as they are at the Long Island College Hospital; but I can but think the statement an exaggerated one that medical students in New York graduate "without ever having seen a patient."

It would be very gratifying to the faculty of this college, and an act of justice which he owes to the medical profession of the United States, if your correspondent would, before his departure, visit the Long Island College Hospital and inspect the clinical and other advantages which it offers to medical students. We feel sure that we should be able to convince him that the opinion of medical teaching in America which he has formed from his visit to New York does not apply to Brooklyn.

J. H. Raymond.

Proceedings of Societies.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

(*Continued from page 442.*)

Discussion of Papers on Abdominal Surgery.—Dr. W. N. Hingston, of Montreal, said, speaking of laparotomy for wounds, that it had been stated that hæmorrhage and shock were misleading, and he agreed to this. Fæcal discharge clearly indicated operation. The rule to operate when in doubt was a good one, for the exploratory incision could not add to the risk. With reference to the length of time required for operation, while it was desirable to operate with all possible speed, all hurry should be avoided. Time was not of so much moment as was generally supposed. It had been asserted that gangrene was not the result of interference with the arterial supply. This was contrary to all his previous ideas, but he was not in a position to deny it. Dr. Senn's paper was, without exception, one of the ablest he had ever listened to. Dr. Homans had spoken of having observed ventral hernia in 10 per cent. of his cases. This proportion struck him as large, and he would ask how he closed the abdominal wall—whether he sutured only the skin and peritonæum, or included everything. He would direct attention particularly to Dr. Homans's statement that he had performed five operations of removal of the ovaries for nervous disease with only one success. This was quite different from the reports usually made. The removal of normal ovaries appeared to be epidemic in certain places. He had never removed an ovary weighing less than fifteen pounds. The immunity that attended abdominal section had made these operations very frequent.

Dr. J. B. Murphy, of Chicago, said that in the three cases which he had had there had been no shock, and no appearance of fæcal matter in the wound, although in one case there were eleven wounds. While in the majority of cases the median incision was the best, there were cases in which enlargement of the wound was to be preferred. The operation should be done early, for after severe peritonitis had set in it would be of little service. If there was penetration, an exploratory operation would not add to the danger, and if the intestine was wounded death was certain without it.

Dr. W. F. Beck, of Davenport, Iowa, reported a case in which he had opened the abdomen of a man apparently suffering from intestinal obstruction. He found a portion of the ileum strangulated under an adherent vermiform appendix. He tied the appendix in two places, and divided it. The patient made a complete recovery. There were no antiseptic precautions adopted in this case. With an experience of seventy-eight cases of ovariotomy, it seemed to him that our results were improving, and, as we devoted ourselves more to aseptic surgery and less to antiseptic surgery, that our results would be better. In the treatment of the pedicle he did not use a ligature, but relied on the actual cautery, not having the iron too hot, and applying it to the pedicle held between clamps. After the application the pedicle was allowed to remain five minutes undisturbed, and the clamp was then carefully removed. There was no fear of hæmorrhage after this procedure.

Dr. S. C. Gordon, of Portland, Me., had seen but three cases of ventral hernia in eighty operations. These were due, he thought, to the use of silver wire in closing the abdominal wound. It was difficult to twist silver wire so as not to strangle the tissues. If the part was strangulated, absorption was likely to occur. He now always used silk, and included the transversalis fascia and linea alba. In hysterectomy he had treated the pedicle in an intra-peritoneal way, and 90 per cent. of the patients had recovered. In regard to so-called normal ovariotomy, he had seen patients cured by the operation in which all other measures had failed. He had done Tait's operation in thirty-three cases, with three deaths. Twenty-five of these patients considered themselves well; four or five had not been benefited.

Dr. Coudin, of Rock Island, Ill., remarked that Dr. Senn had stated that overdistension of the bowel caused longitudinal rupture of the peritonæum. Some years ago he suffered intussusception in his own person, the invaginated portion reaching almost to the anus. After other measures had been resorted to, he injected the bowel through a long rubber tube. There was a sudden report, the bowel returned to its position, and the water entered. In his case the injection evidently passed through the ileo-cæcal valve.

Dr. Kreicher, of Springfield, Ill., would add to the cases of Dr. Parker a successful case of laparotomy for gunshot wound of the intestine in the practice of Dr. David Prince, of Jacksonville. He had seen four cases of intestinal obstruction. The first was one of acute obstruction. He saw the case one week after the onset of the symptoms, and proceeded to the operation. The intestine was in such a condition that the operation was abandoned, and the patient died. In the second case there was, in connection with the obstruction, extensive miliary tuberculosis of the peritonæum, and it was impossible to proceed with the operation. The third case was one of strangulated hernia, although there was no external evidence of the condition. The patient died eighteen hours after operation. The fourth case was one of one week's duration. An operation was recommended, but not accepted. It was his opinion that cases of intestinal obstruction which did not yield to ordinary medication, injections, and massage, should be submitted to exploratory incision, and the operation should not be delayed.

Dr. Satterthwaite, of Louisville, Ky., remarked that the first thing to determine was whether or not the abdominal cavity had been opened. This could only be done by careful exploration. There might be a valvular opening which would not permit a probe to pass. If penetration was ascertained, the wound should be enlarged and the opening in the intestine closed by sutures, including only the peritoneal and muscular layers. If shock and the passage of fæces were waited for, the case would usually prove fatal.

Dr. Link, of Terre Haute, said that gunshot wounds of the intestine, even if not operated on, were not necessarily fatal. The presence of food in the peritoneal cavity was not of necessity fatal. He believed that many cases of pistol shot wounds of the abdomen with perforation of the intestine ended in recovery without operation. A probe should not be introduced into the opening until we were ready to proceed with the operation.

Dr. Palmer, of Jonesville, Wis., said, in reference to the passage of fluids injected into the bowel through the ileo-cæcal valve, that he had performed a number of experiments on dogs, producing invagination artificially. Rectal injections were then resorted to, with the effect of relieving the invagination in the majority of cases. The same procedure had been resorted to in the human subject with satisfactory results in two cases. If we could relieve intussusception by fluid or gaseous injections, we did away with the need for the knife, and, if they failed, the knife could be used afterward.

Dr. A. C. Burnays, of St. Louis, said he would mention, in connection with Dr. Senn's recommendation of intestinal anastomosis, a suggestion which he had made in 1883. In order to form a communication, say between the stomach and intestine, an elastic ligature might be passed into the stomach and brought out a short distance from the point of entrance. The needle with the ligature was then passed into the bowel, brought out, and the ends tied together. Adhesion took place, and the ligature cut through in from twenty-four to thirty-six hours. This would do where one could wait, but, where a communication had to be established at once, Dr. Senn's operation was eminently useful.

Dr. Gilman, of Lowell, Mass., said that he had seen three cases of pistol-shot wound of the abdomen without operation. In the first case there was a wound of the intestine with death from peritonitis. The second patient had a wound of the stomach, and recovered without a bad symptom. The third case resulted fatally from peritonitis.

Dr. T. G. Richardson, of New Orleans, had recently seen a case in which there was undoubted wound of the intestine, and the patient recovered without operation. The records of the Charity Hospital showed that more than one half the negroes with penetrating abdominal wounds recovered, while more than half the whites died.

Dr. Ridge, of Kansas City, had seen several cases of knife wound penetrating the stomach, in which recovery had followed without operation, and he thought that he had seen as much damage from the knife as from waiting.

Dr. Dawson, of Cincinnati, had made several experiments on the cadaver with reference to the possibility of passing fluids from below through the ileo-cæcal valve. In twelve cases he had found it impossible. In one case fluid appeared in the mouth. Examination showed the valve to be imperfect. In the normal condition it would not allow fluid to pass.

Dr. Parkes, of Chicago, said that the results of his experiments on animals showed the necessity of bringing large surfaces of peritonæum in contact. With regard to Dr. Senn's suggestion for the treatment of multiple wounds of the intestine, he thought that it was not necessary, for the plan of treatment by the continuous suture was sufficiently rapid, and answered the purpose.

Three Cases of Laparo-nephrotomy.—Dr. Donald Maclain, of Detroit, reported the following:

Case I.—Mrs. A., aged twenty-five years, presented herself with what had been diagnosticated as an ovarian tumor. There was a cystic abdominal tumor of about the size of the uterus at the seventh or eighth month of pregnancy. There was no history of renal trouble and there was no evidence that the tumor was connected with the kidney. The patient insisted that it had begun to grow from below. The operation was done with the expectation of removing an ovarian tumor. The left ovary was found enlarged to the size of a goose-egg and was removed. The large tumor was found to arise from the kidney and it was removed. The patient did well for a time, and then suppuration with the formation of a fæcal fistula occurred, but the patient finally made a perfect recovery.

Case II.—Mrs. T., aged forty years, presented herself with a tumor of the left side of the abdomen, which had been discovered six years previously. The enlargement had gradually increased. The tumor when first seen was too high for the ovary and too low for the spleen. The urine was normal. A diagnosis of tumor of the left kidney was made. It was decided to adopt the trans-peritoneal method of operating. A large cyst of the kidney was found. During removal it ruptured, with the escape of a material like soft soap. The posterior layer of the peritonæum was brought together with sutures. The patient did well until the eleventh day, when the temperature went up until it reached 104° F. Examination showed fluctuation in the lumbar region. An opening was made, with the escape of a large quantity of pus. Symptoms of collapse followed this operation, but these were overcome and the patient made a gradual recovery.

Case III.—A female infant, twenty-two months old. The family history was good. There was a tumor in the right hypochondriac region. This was movable and free from tenderness and pain. Tumor of the kidney was diagnosticated and removal recommended. The incision was made just external to the rectus muscle. No difficulty was experienced and the operation was completed in seven minutes. The posterior layer of the peritonæum was closed with catgut sutures. For several days the case progressed favorably, but the temperature remained high. On the fifth day a careful examination was made to determine the cause of the elevated temperature. During the examination the child coughed and the abdominal incision gave way, allowing the intestines to escape. These were replaced and a search failed to show the source of the trouble. The wound was reunited. The temperature continued high and the child died on the ninth day. At the autopsy the posterior layer of peritonæum was found united, and in the space occupied by the tumor a small collection of pus was found surrounding the ligature on the pedicle of the tumor.

The speaker said that, while the lumbar operation might be the safer, there were cases in which the trans-peritoneal operation was preferable. These cases pointed to the necessity of securing efficient drainage, although antiseptic precautions were adopted.

Dr. Herff, of San Antonio, Texas, quite agreed with Dr. Maclain that in suitable cases laparo-nephrotomy was the proper operation. Some years ago he had had a case of a young woman who was newly married, and when about two months pregnant she discovered a tumor on the right side which was nearly as large as a child's head. She had no pain, and, except that she had this tumor, she was in good health. The tumor, however, annoyed her very much, and she insisted on an operation being done. He therefore opened the abdomen in the median line and removed the tumor. The remarkable thing about the case was that the tumor, which he had thought an ovarian one, proved to be the kidney and supra-renal capsule. From the lower end of the tumor the lower part of the kidney was hanging, while the upper part consisted of the supra-renal capsule enormously enlarged. Sections of it presented under the microscope the appearance of the long cells of myoma. The patient made a good recovery, and two years after the performance of the operation she was in perfect health. This, while a case of removal of the kidney, was also a removal of the supra-renal capsule. This made the case more remarkable to him because he had never read of its removal for disease.

Dr. Hughes had had precisely the same number of cases of kidney disease as Dr. Maclain, and he perfectly agreed with him in all but one thing, and that was as to the site of operation. He seemed to prefer the abdominal incision, while in all cases where it was practicable the speaker would give the preference to the side, between the ribs and the crest of the ilium. He had operated in his first case by means of the abdominal incision, the only way that he could do, as the tumor was so large a one that it could not have been brought through the opening betweeen the ribs and the crest of the ilium. The second case was only a tumor of about the size of the fist, and he had operated in the space between the ribs and the anterior crest of the ilium. He had also operated in the third case by incising the lumbar region, and from these last cases he obtained the best results and also avoided opening the peritonæum.

Dr. Edmund Owen, of London, remarked that there were at least three factors which must influence the choice of the operation in each case. First, if there were doubts as to the exact nature of the tumor, the anterior operation would be chosen, and, second, if the tumor was very large, the anterior incision must be chosen. Lastly, there was the line of practice of the individual surgeon. The gynæcological operator would naturally prefer the trans-peritoneal incision, even for a small tumor, because that was to a certain extent his own province, while the general surgeon would choose the space between the last rib and the iliac crest, because for some reason, rather indefinite, he did not care to touch the peritonæum if he could avoid it. In a case of diseased kidney which he had removed successfully, he had made the incision through the linea semilunaris.

Dr. Harden remarked that he had had a case somewhat similar to one which had been related. In his case he had made the anterior section, but had not removed the tumor, on account of an enormous flow of blood, which would have become so alarming if he had attempted to separate the tumor from its connections that he feared the patient would die, so all further operation had been stopped. The tumor was shown, after the death of the patient, to be a kind of fibro-cystic tumor of the kidney.

Dr. Lange, of New York, said that a large number of tumors of the kidney where there was fluctuation were pyo-nephroses, usually of very large size. He had operated several times for the removal of the kidney, and performed both the anterior and posterior operations. In the small tumors, and in some of the larger ones, he preferred to make a small lumbar incision, empty the contents of the tumor out as far as possible, and then wait until the remainder of the tumor lessened in size, which it would be very apt to do, so that it could be removed through even a very small incision. Sometimes in renal calculi he had performed laparotomy, or rather the operation in the lumbar region, and then, after making this incision, by placing the patients in bed, lying on their stomachs on a pillow, the kidney would float up when the wound was made, and could then be easily raised and the calculus removed.

Dr. Maclain said he had been misunderstood in the discussion, because he chose his operations in the front of the belly, instead of the lumbar incision. There had been very good reasons in each of the cases he had had why the anterior operation should be chosen; the tumors were all too large for the lumbar incision.

Gastrotomy for Foreign Bodies in the Œsophagus.—Dr. M. H. Richardson, of Boston, read a paper with this title, in which he said that this operation was intended only for the removal of foreign bodies in the œsophagus which had passed so far down as to be lodged near the cardiac orifice. In regard to the length of the incision, it was not fixed; it might be only a very short one, or it might be made large enough to put the hand inside the stomach, so as to reach up into the œsophagus, if that should be necessary in order to extract the foreign body. The incision through the skin should be made over the cardiac end of the stomach, or might be made in the median line, and the incision through the walls of the stomach should be made in the cardiac end of the organ. All the caution necessary in making this was to get the incision made without wounding the convexity of the lesser curvature of the stomach, and, in order to avoid this, the better way was to put the lesser curvature on the stretch. After the opening into the stomach was made, instruments might be introduced for the dislodgment of the foreign body, or, if they were insufficient, the fingers and hand might be passed in, which would enable one to relieve the œsophagus of its burden. As to the scope of the operation, while it was chiefly applicable to the removal of foreign bodies, it might be useful in other ways, as its capabilities were considerable, as had been demonstrated by his experiments on the cadaver. He concluded that if the foreign body was lodged within six inches of the lower edge of the cricoid cartilage, it was best removed by an operation from the side or above, but, if it was situated more than six inches from the cricoid cartilage, gastrotomy was the best thing to be done. He then exhibited a patient from whom he had removed a plate of false teeth by means of gastrotomy.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 2, 1887.

The President, Dr. A. Jacobi, in the Chair.

Intubation of the Larynx.—Dr. F. Huber opened a discussion on this subject with a paper embodying a study of forty-seven cases. On the question of the choice between intubation and tracheotomy he referred feelingly to the vain attempts of a child in its exhausted and painful state to make its wants known before intubation enabled it to express those wants in audible tones. O'Dwyer's method was practicable at an age when tracheotomy could not be done. Of his forty-seven patients, twenty-nine were under three years of age, and eleven of them had recovered. Eighteen were three or more years old, nine of whom recovered. In his own practice he had not found it necessary to resort to intubation in cases of laryngeal stenosis treated from the onset in more than about one out of every three or four cases. The cases of recovery which he reported had occurred in patients who, in the judgment of the physicians present, would have died from stenosis but for intubation. One should be sure that the dyspnœa was laryngeal before resorting to intubation. The tube might be removed as early as the third, fourth, or sixth day, and exceptionally it was necessary to leave it in ten or eleven days. It was shown that the O'Dwyer tube could be dispensed with sooner than the tracheotomy tube. The author did not favor frequent remova of the tube to administer nourishment if necessary, it was easier to insert the stomach tube for that purpose. Medicinal treatment was continued after the introduction of the tube; alcoholic and other stimulants should not be neglected. Intubation gave the patient every advantage afforded by tracheotomy, besides being free from certain objections to the latter. Of twelve cases in which he had performed tracheotomy in children, ten had had a fatal ending.

Dr. Joseph O'Dwyer discussed the question of feeding after intubation, and showed some tubes modified to overcome the difficulty in feeding. The modifications made in the tube for the purpose of overcoming difficulty in swallowing were various. Those for overcoming certain other difficulties were also explained. They related to the size and shape of the head of the tube, the form of the shaft, the weight, etc. In a recent one the head was made concave, and, while it did not seem to make much difference with regard to swallowing, it possessed the advantage of being more readily extracted. The last modification of moment which he had tried was to give the upper portion of the tube a double backward curve, whereby it was hoped to obviate ulceration of the trachea by the lever action of the lower end of the tube. The difficulty in swallowing was sometimes apparent, not real. It might be due to the fact that the child disliked a given diet, or that it had no appetite, in which case it would reject food even after the tube had been removed. Sometimes swallowing was actually improved after intubation, probably because the child during its dyspnœa was too much exhausted to make any effort at taking food. As a rule the longer the tube remained in the larynx the better the patient could swallow. This was shown in the case of laryngeal stenosis in adults, where the tube had to be worn weeks and months. When the patient was old enough he instructed him to drink as rapidly as he could, and then to cough in order to expel any liquid which might have entered the tube. In only a few cases had he been compelled to resort to the stomach tube in order to give the patient nourishment. The speaker gave some reasons for believing that food was never the cause of pneumonia. There was not evidence, he thought, to prove that the food ever entered the bronchi; it was promptly expelled by cough when it entered the tube. He mentioned cases in which the tube had been worn for months by adults without being followed by inflammatory changes in the lungs or bronchi; on the contrary, in one or more cases an existing bronchitis had been recovered from after the introduction of the tube. The speaker then showed two hard rubber tubes of different sizes for use in stenosis in adult life, varying in make from the metallic tubes only in the fact that the caliber was larger and the tubes were lighter, being of about one fifth the weight of the metallic tubes. The choice between the two materials would probably depend largely upon the peculiarities of the different cases. One of his patients had been better able to wear the heavy tube. another could wear only the lighter one.

Dr. Dillon Brown presented some statistical records of intubation. With regard to the accidents connected with the tube, they were many, but the unavoidable accidents were few. With the exception of pushing false membrane before the tube, which was a rare complication, the accidents were not important or could be avoided. In two cases which had come under his notice a false passage was made by the exercise of undue force in the introduction of the tube. As to the tube slipping into the trachea, this accident could not happen with one of the later tubes of proper size. In one of his cases the tube was coughed out on several occasions, and, spasmodic dyspnœa recurring, it was necessary to introduce it again. On the twenty-eighth day, however, it was coughed out again, and by the time he reached the patient, two hours afterward, death had taken place, probably from spasm of the glottis. There was no apparent cause for the dyspnœa.

The pathological anatomy of the laryngeal tract after death from laryngeal diphtheria and intubation was dealt with by Dr. W. P. Northrup, in a paper giving a summary of the facts contained in a paper which he had read before the Academy some months before. Since that time, or within the past four months, there had occurred in the foundling asylum twenty deaths in patients who had had laryngeal diphtheria. In all, there had been measles and pneumonia; eight had scarlatina with measles and pneumonia; thirteen had well-marked nephritis. These points were mentioned to show the severity of the epidemic, which in four months had added twenty cases to the former record of eighty-seven. In this severe epidemic he had found, what he did not before find, deep ulcers, laying bare the tracheal rings at the lower end of the tube, due to the fact that at each act of swallowing the lower end of the tube rubbed against the trachea. These ulcers were sufficiently well marked to be of some moment in five of the twenty fatal cases. He had never seen ulcers worthy of consideration made by the head of the tube. In no case had he seen any evidence that milk had found its way through the tube and down into the finer bronchi. He thought that some harmless substance, such as bone-black, might be put into the milk which would leave its traces in the bronchi or alveoli should any of it enter through the laryngeal tube. He further said that the pneumonia was of the lobular and not of the lobar type, and in not more than one fourth of the cases, he thought, was it the cause of death.

A case of laryngotomy after intubation was reported by Dr. Irwin H. Hance, who cited others in which laryngotomy or tracheotomy had been performed after intubation. In his case, O'Dwyer's tube was introduced three or four times, but was coughed up, or removed because of symptoms of obstruction. After laryngotomy the child, aged twenty months, had no further difficulty with breathing, but it died of systemic poisoning from scarlet fever and diphtheria. Of the nine reported cases of tracheotomy after intubation three had ended in death and five in recovery; in one the result was not noted. Some of the reasons for resorting to tracheotomy or laryngotomy after the use of the tube were intolerance on the part of the larynx to the tube, inability to take nourishment, coughing up of membrane obstructing the tube, recurrence of the dyspnœa, and wedging of the tube in the larynx so that it could not be removed through the mouth. Fortunately, something could usually be done to prevent these accidents. The only really serious danger from intubation was pushing membrane before the tube. The speaker would resort to tracheotomy only after intubation had failed.

Dr. O'Dwyer, in reply to questions by the president, said that within the last two or three years he had found it necessary to resort to tracheotomy in only one case after intubation, but he would like to see tracheotomy performed in every case in which intubation failed. He presented an instrument for introduction into the larynx and trachea to withdraw obstructing membrane.

The President mentioned a class of cases in which neither intubation nor tracheotomy would give relief to dyspnœa. He had performed tracheotomy in a number of such cases, and no relief had followed the operation because the difficulty lay below the artificial opening. He had understood that both Dr. Northrup and Dr. O'Dwyer maintained that there was no such thing as aspiration pneumonia after intubation. But when it was known how frequently such aspiration pneumonia took place at all ages, he thought it would be well to gather more material regarding its occurrences after intubation.

Dr. O'Dwyer said that, while he had no proof that fluids entered the tube and caused pneumonia, he thought that what amounted to practically the same thing was, that the secretions, being retained in the bronchial tubes, were aspirated into the air cells and were productive of pneumonia. As the secretions could not be expelled with the same amount of ease with the tube in as through the normal larynx, in that way he thought the tube might to some extent be the cause of aspiration pneumonia. Sudden death from dyspnœa after removal of the tube, two cases of which had been reported, he attributed to diphtheritic paralysis.

Dr. A. Caillé had performed tracheotomy twenty-one times with five recoveries, and intubation sixteen times with six recoveries. The cases in which he would choose tracheotomy were those in which, judging by former experience, the preservation of life after overcoming stenosis would depend upon stimulation and nutrition.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of April 28, 1887.

The President, Dr. Benjamin F. Westbrook, in the Chair;
Dr. A. H. Buckmaster, Secretary.

The Corset: Questions of Pressure and Displacement. —Dr. R. L. Dickinson read a paper on this subject. (See page 507.)

Dr. Eliza M. Mosher remarked that the point of greatest interest in connection with the subject was whether the loose corset injured the health of the wearer, and, if so, what could be offered as a substitute. Most girls, according to her experience, wore them sufficiently tight to limit respiratory movements. It was difficult to measure the injury done, since the chest was already crippled and its expansion was below its possibilities. In addition to the thinning of the abdominal wall described by Dr. Dickinson, there was atrophy of the entire surface covered by the corset, with lack of development of muscular tissues due to restricted movement. This was apparent by the often-repeated remark of ladies that they could not sit up straight without their corsets. It was often observed how useless were the arms of most young ladies for any manual labor, even though their lower extremities were capable of long-continued muscular movement. A well-developed nipple was almost an unknown thing with a woman or girl who had worn a corset for any length of time. The respiratory murmur below the fifth rib was very faint compared with the sounds above, and these ladies found it impossible, as a rule, to move the strength "spirometer" the fraction of a degree. From these facts, she concluded that the capacity of the chest had become limited, and the muscular fiber of the diaphragm impaired by the unyielding walls of the corset prison. Not very great compression upon the line of attachment of the diaphragm was required to interfere with its contractile power. Loss of strength in the abdominal muscles and diaphragm prepared the way for a slow and painful, if not instrumental, labor. Loss of respiratory capacity implied increase in rapidity of the heart's movements; this meant weakening of its force, and thus came the cold extremities and easily chilled skin so common in those who wore corsets. She had not been able to demonstrate the displacement of the liver spoken of, because doubtless the examinations were made with the corset off. With a large experience in treating girls suffering from displacements of the uterus (mainly retroversion and downward crowding), little could be done to relieve the sufferers until the corset was laid aside. Active muscular movements and corsets were not compatible, and, unless the corset and its equivalent, tight clothing, were discarded, she was not sure but girls were better off without active physical exercise. What could we substitute for the corset which, without producing pressure or displacement, would give the trim and tidy look so much admired by the sterner sex? A good dressmaker had more to do with this matter than the corset had. An under-waist without bones, with skirts snugly fastened to it; a dress-waist well shaped, containing a few bones and loose enough to permit a long breath without limitation—would make nine girls out of ten look just as trim and tidy as a corseted waist. If something more supporting was demanded, the "Ferris waist" was all that was required. Without steels in front, and without bones, if worn loosely with the skirts attached, it might be accounted healthful.

Dr. R. G. Eccles spoke of the comfort women derived from the corset. He had noticed that the more intelligent the women, the more they were corset-wearers.

Dr. Jerome Walker spoke of the evils of corset-wearing, among which he mentioned the shallow breathing as particularly objectionable.

Dr. William Anderson thought if we educated the women to despise the corset it would disappear.

The President remarked that we did not use our chests to their full capacity except when making unusual exertion. A woman under ordinary circumstances had her breathing but little restricted. If the servant laced herself in her ordinary working costume as she did on Sunday, she would suffer severely.

Book Notices.

A Manual of the Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A. M., M. D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, etc. New York: William Wood & Co., 1887. Pp. xii–150.

This posthumous work is an enlargement of a small book which was published for the use of the author's students at the New York Polyclinic, and is now adapted for the use of the profession. The first three chapters are devoted to the general principles of physical diagnosis, and to percussion of the healthy and abnormal chest. Chapters IV, V, and VI treat of auscultation and chest acoustics, with a synopsis of respiratory diseases. In Chapters VII and VIII cardiac diseases are taken up, while the closing chapter is devoted to the relation which the pulse bears to diseases of the heart.

Throughout the entire work brevity of expression is one of the conspicuous characteristics, and yet this condensation is not done at the expense of clearness, as is seen in the pages devoted to the synopses of diseases. The different respiratory and cardiac diseases are treated of in tabular form under the divisions of definition, pathology, cause, symptoms, physical signs, diagnosis, prognosis, and a brief outline of treatment. This is one of the best manuals yet published, and deserves a place in the library of every practitioner.

BOOKS AND PAMPHLETS RECEIVED.

Functional Nervous Diseases: their Causes and their Treatment. Memoir for the Concourse of 1881–1883, Académie Royale de médecine de Belgique, with a Supplement on the Anomalies of Refraction and Accommodation of the Eye and of Ocular Muscles. By George T. Stevens M. D., Ph. D., Member of the American Medical Association, of the American Ophthalmological Society, etc. New York: D. Appleton & Co., 1887. Pp. xiii–5 to 217. [Price, $2.50.]

Operative Surgery on the Cadaver. By Jasper Jewett Garmany, A. M., M. D., F. R. C. S., Attending Surgeon to Out-door Poor Dispensary of Bellevue Hospital, etc. New York: D. Appleton & Co., 1887. Pp. ix–150. [Price, $2.]

Insanity: its Classification, Diagnosis, and Treatment. A Manual for Students and Practitioners of Medicine. By E. C. Spitzka, M. D., President of the New York Neurological Society, etc. New York: E. B. Treat, 1887. Pp. 17 to 423. [Price, $2.75.]

Pathology and Treatment of Ringworm. By George Thin, M. D. London: J. & A. Churchill, 1887. Pp. 7 to 87.

The Diagnosis and Treatment of Eczema. By Tom Robinson, M. D., L. R. C. P. Lond., M. R. C. S. Eng., etc. London: J. & A. Churchill, 1887. Pp. 136.

Wintering Abroad. By Dr. Alfred Drysdale, of Cannes. Second Edition. London: J. S. Virtue & Co., 1887. Pp. 7 to 63.

On the Treatment of Felon without Incision. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Grand Canary as a Health Resort for Consumptives and Others. A Paper read before the British Medical Association. By Mordey Douglas, L. R. C. P., M. R. C. S. Eng., etc. London: J. & A. Churchill, 1887.

Cholera and Water in India. By M. C. Furnell, M. D., F. R. C. S., etc. London: J. & A. Churchill, 1887.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of Cutaneous and Venereal Diseases."]

Hay Fever. The First Prize Essay of the United States Hay Fever Association for 1887. By Seth S. Bishop, M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

A Study of the Considerations relating to the Classification of Skin Diseases, with an Attempt to construct a Logical System in accordance with Fundamental Principles in Ætiology. By Edward Bennet Bronson, M. D., etc. Read before the American Dermatological Association, September 1, 1887. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

Les sulfureux dans la tuberculose laryngée. Par M. le Docteur Charazac.

New Inventions, etc.

A SET OF INSTRUMENTS DEVISED TO CONTEND WITH THE IMMEDIATE DANGERS INCIDENT TO THE ADMINISTRATION OF ANÆSTHETICS.

By Edward N. Liell, M. D.

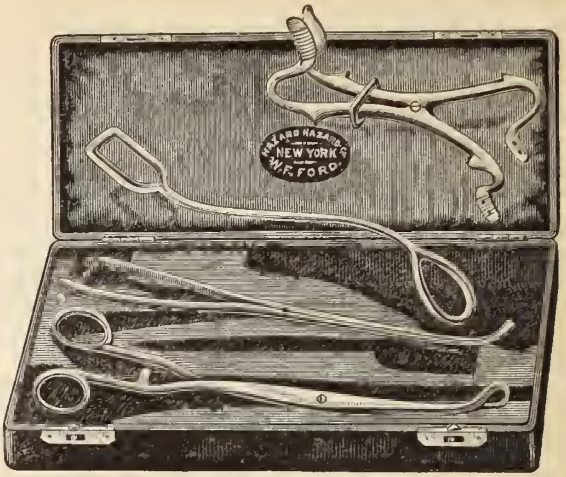
For some time past I have felt the need of appliances to cope promptly with the dangers not infrequently arising, with but little warning at times, in the administration of anæsthetics.

The accompanying cut illustrates a set of instruments designed for the purpose, composed of tongue-depressor, tongue-forceps, sponge-holder, and mouth-gag. So far as I can ascertain, these instruments are the first devised for the purpose, and for the suggestion of which I am indebted to Dr. J. A. Wyeth.

The convenience of such an arrangement not only will commend itself to all surgeons, but can be best appreciated by those who have met with these dangers, be they greater or lesser.

It is only necessary here to refer to the various complications arising not infrequently, during and immediately following the administration of anæsthetics, which interfere with or obstruct respiration, such as rigidity of the maxilla, falling back of the tongue, vomiting, with entrance of food into the larynx and trachea, spasm of the glottis, and vicarious bronchitis from excessive secretion and collection of mucus and saliva, with the consequent dangers arising from a failure to meet these indications immediately.

The tongue-depressor, the instrument one is most frequently called upon to use, is simply a Sims's uterine depressor, somewhat smaller in size and slightly modified, in that one end is oblong in shape, giving a firmer purchase of the palm of the hand upon the instrument, while the oval end is curved to an angle of about forty-five degrees to meet the required curve of the tongue and pharynx. The employment of the tongue-depressor enables one not only to depress the base of the tongue, but also at the same time to press it forward, thus raising the epiglottis from its position across the glottis, facilitating inspiration and expiration.



The tongue-forceps is modified after the hæmorrhoidal lock-forceps of Allingham, being not only much lighter in weight and finish, but less resisting to guard against a too firm hold upon the tongue, being also gently curved toward the triangular ends or blades to facilitate its application.

The sponge-holder, unlike any heretofore devised, enables the sponge to be firmly clasped by the separation of the handles of the instrument to their fullest extent and so retained by means of a nut and screw placed between and near the end of both handles. To have the sponge more firmly in the clasp of the instrument, three small teeth project from the inner surface of the sponge-blades into the meshes of the sponge. The mouth-gag has the practical advantage of being a double gag, one not infrequently used, the fulcrum being placed slightly away from the center of the instrument, sufficient to produce both a smaller and a larger gag, and causing both to be self-retaining when in position.

My efforts have been so well rewarded in meeting exigencies arising, and experience has so fully demonstrated the value of these instruments in averting impending danger, that I feel warranted in suggesting their use where such indications present themselves. And, finally, the surgeon who has provided himself with these instruments will find that he will be enabled to cope promptly with the various complications arising not infrequently, both during and immediately following the administration of anæsthetics. These instruments, arranged in a neat case, ten by four inches, so that it may be carried in the coat-pocket, are manufactured by Mr. W. F. Ford, of Messrs. Hazard, Hazard, & Co., Twenty-fourth Street and Broadway, for whose kind attention to details I am deeply grateful.

268 West Thirty-eighth Street.

Miscellany.

The Hospital for the Ruptured and Crippled.—We learn that Dr. V. P. Gibney has been appointed surgeon in chief, in place of the late Dr. Knight.

The American Association for the Cure of Inebriety will hold its semi-annual meeting at the Turkish Bath Hotel, Brooklyn, on Wednesday, the 9th inst., at noon. Besides the president's address, "On the Responsibility of the Inebriate," by Dr. Joseph Parrish, of Burlington, N. J., papers will be presented by Dr T. D. Crothers, of Hartford, Conn., Dr. Norman Kerr, of London, England, Dr. J. T. Searcy, of Tuscaloosa, Ala., Dr. J. B. Mattison, of Brooklyn, Dr. T. L. Wright, of Bellefontaine, Ohio, Dr. C. H. Shepard, of Brooklyn, Dr. Albert Day, of Boston, and Dr. D. McGreggor, of New Zealand.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology, Friday evening, November 11th, Dr. L. Putzel will read a "Report, with Specimens, of a Case of Myelitis of Pott's Disease which had been mistaken for Cancer of the Vertebræ."

At the meeting of the Section in Surgery, Monday evening, November 14th, Dr. Willy Meyer will read a paper "On Neuropathic Inflammation of the Knee Joint, Arthropathia Tabidorum, with a Case," and Dr. A. M. Phelps will give "A Clinical Demonstration of the Treatment of Obstinate Club-foot."

At the meeting of the Section in Theory and Practice of Medicine, Tuesday evening, November 15th, Dr. Henry N. Heineman will read a paper entitled "What Constitutes a Cardiac Murmur?"

The Medical Society of the State of New York.—We are asked to announce that the business committee for the coming meeting consists of Dr. F. A. Castle, of New York (chairman), Dr. A. Walter Suiter, of Herkimer County, and Dr. J. W. Whitbeck, of Monroe County; and that members and delegates who intend to read papers at the meeting are asked to notify some member of the committee or the president, Dr. Alfred L. Loomis, of New York, before the 20th of December.

The American Exhibition in London.—It is announced in a cable dispatch dated October 25th that Messrs. W. R. Warner & Co., of Philadelphia, received the highest award for the superiority of their sugar-coated pills and effervescing salts.

The Rubinat-Condal Water.—This new aperient has now been long enough before the American profession to enable a judgment to be formed of its value. From the reports that have reached us, and from our own observation, it seems to be as efficient and unobjectionable in its action as any mineral water with which we are acquainted, and to possess a very decided advantage over most of them in the fact that it is not so unpleasant to the taste.

The Washington Obstetrical and Gynæcological Society.—The following named gentlemen were recently elected officers for the ensuing year: Dr. Samuel C. Busey, president; Dr. D. W. Prentiss and Dr. W. W. Johnston, vice-presidents; Dr. George Byrd Harrison, treasurer; Dr. Samuel S. Adams, recording secretary; and Dr. G. Wythe Cook, corresponding secretary.

The Smith & Shaw Portable Battery has been used by a number of New York physicians, including Dr. A. D. Rockwell and Dr. Seneca D. Powell, who commend its cleanliness, readiness of action, and general convenience.

The Health of Boston.—During the week ending Saturday, October 29th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 26 cases and 7 deaths; scarlet fever, 51 cases and 8 deaths; typhoid fever, 26 cases and 5 deaths; measles, 10 cases. There were also 25 deaths from consumption, 14 from pneumonia, 21 from heart disease, 12 from bronchitis, 1 from whooping-cough, and 5 from marasmus. The total number of deaths was 193, against 162 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending October 28th:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 8th corresponded to an annual rate of 17·5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Wolverhampton, viz., 11·6, and the highest in Preston, viz., 30·1 in a thousand. Small-pox caused 13 deaths in Sheffield.

London.—One thousand two hundred and sixty-five deaths were registered during the week ending October 8th, including 10 from measles, 48 from scarlet fever, 25 from diphtheria, 38 from whooping-cough, 13 from enteric fever, and 18 from diarrhœa and dysentery. The deaths from all causes corresponded to an annual rate of 15·7 in a thousand. In greater London 1,572 deaths were registered, corresponding to an annual rate of 15·1 in a thousand of the population. In the "outer ring" 7 deaths from diphtheria, 10 from measles, 7 from whooping-cough, and 4 from scarlet fever were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 8th in the sixteen principal town districts of Ireland was 20·2 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9·6, and the highest in Kilkenny, viz., 38·1 in a thousand.

Dublin.—One hundred and sixty-four deaths were registered during the week ending October 8th, including 6 from measles, 2 from whooping-cough, 3 from scarlet fever, 4 from enteric fever, 12 from diarrhœa, 1 from dysentery, and 1 from diphtheria. Diseases of the respiratory organs caused 20 deaths. Two accidental deaths and 1 suicide were registered, and in 22 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 24·2 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 8th corresponded to an annual rate of 18·1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 12·3, and the highest in Paisley, viz., 26·5 in a thousand. The aggregate number of deaths registered from all causes was 453, including 3 from measles, 19 from scarlet fever, 7 from diphtheria, 17 from whooping-cough, 6 from fever, and 22 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending September 24th corresponded to an annual rate of 20·6 in a thousand. The lowest rate was recorded in Braunschweig, viz., 13·5, and the highest in Darmstadt, viz., 33·8.

Montevideo.—Four hundred and seventy-eight deaths were registered during the month of July, 1887, including 52 from small-pox, 6 from enteric fever, and 79 from diphtheritic croup.

Athens.—The United States consul, in his dispatch dated September 27, 1887, states that the Greek Government has declared a strict quarantine of eleven days on arrivals from all ports on the eastern coast of the Italian peninsula to the Austro-Hungarian frontier.

Naples.—The United States consul, in his dispatch dated September 27, 1887, states that "from the 14th to the 26th inst., both days included, there have been in the city of Naples about 97 cases of cholera, 68 of which were followed by death.

"The number of cases in the surrounding country is not known, but the disease is gradually decreasing."

Rome.—The United States consul-general, in his dispatch under date of October 10, 1887, states that the vice-consul-general has just succeeded in obtaining from an official source the following facts in regard to the cholera in that city:

"From August 16, 1887, to October 7, included, there were buried in the cemeteries of this city 204 bodies of persons certified in a special official register to have died of Asiatic cholera.

"As the ordinary portion of deaths in cases of cholera in Italy during the last four years has been a little less than 50 per cent., it may be safely assumed that there have been in Rome, between August 16th and October 7th, more than 400 cases of cholera. There has been at no time more than 10 burials in consequence of deaths by cholera during any one day since August 16th, and during the week ending October 7th the average number of such burials was less than two per day. On October 6th and 7th there was one such burial on each day. There were on October 7th 10 cholera patients in the lazaretto, and 30 persons detained under surveillance in the house of observation. At one time in August or September there were nearly 300 persons so detained."

Santiago de Cuba.—The sanitary inspector reports for the week ending October 8, 1887, that small-pox has almost disappeared, only 4 cases and no deaths having been recorded for the week. Yellow fever still continues to rage among the troops at the military hospital outside the city limits. Twenty-six cases and 10 deaths have been reported during the week.

Havana.—Ten deaths from yellow fever and 77 deaths from small-pox are reported for the week ending October 15, 1887.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	October 8.	2,260,045	829	..	....	4	....	23	4	24
Glasgow	October 8.	545,678	188	..	....	....	....	3	6	5
Warsaw	October 1.	439,174	276	..	...	23	....	....	10	5
Calcutta	September 3.	433,219	188	9	....	....	....	....	...	....
Calcutta	Septemb'r 10.	433,219	196	12	...	....	...	..	...	1
Amsterdam	October 8.	378,686	143	..	....	....	2	4	....	5
Munich	Septemb'r 24.	269,000	129	..	....	....	....	1	4	3
Munich	October 1.	269,000	144	..	....	....	....	....	....	2
Palermo	October 9.	250,000	88	8	....	....	1	....	1	4
Belfast	October 8.	224,422	77	..	....	....	1	1	3	....
Genoa	October 8.	179,530	87	..	....	9	2	....	....	1
Leipsic	October 8.	170,000	52	..	....	....	....	....	1	8
Trieste.	October 1.	150,157	92	..	....	9	....	....	....	2
Stuttgart	October 8.	125,510	37	..	....	....	....	....	....	1
Toronto	October 15.	120,000	22	..	....	...	....	1	....	....
Havre	October 1.	112,074	93	..	....	....	....	28	...	....
Havre	October 8.	112,074	66	..	....	....	....	14	....	....
Reims	October 8.	97,903	40	..	....	....	....	....	....	2
Cienfuegos	October 10.	35,464	25	..	5	2	....	1	....	....
Cienfuegos	October 17.	35,464	21	..	3	6	....	1	....	....
Callao	October 1.	34,000	......	..	...	...	....	1	....	...
Guayaquil	October 6.	30,000	55	..	....	11	....	....	....	....
Vera Cruz	October 13.	23,800	15	..	1	....	....	....	....	....

United States.

Sapelo Quarantine Station.—The British ship Salon, infected with small-pox, is undergoing quarantine at this station.

Tampa, Fla.—Yellow Fever.—Dr. J. Y. Porter, U. S. quarantine inspector, reports, under date of October 26, 1887, "a total of 225 cases and 34 deaths to date. Fourteen new cases yesterday. About 80 sick now."

New York Quarantine.—The health officer, Dr. William M. Smith, reports, under date of October 26, 1887, as follows: "The steamship Britannia was detained in first instance because diagnosis of surgeon of cases died at sea was unsatisfactory. On the 16th instant a case developed that was very suspicious. Autopsy and biological examination confirmed suspicion of cholera—day after conclusion of investigation, 23d, another the 24th. The infection among the Alesia's passengers destroyed. There need be no apprehension concerning the Britannia."

THERAPEUTICAL NOTES.

Pereirine Hydrochloride as a Substitute for Quinine in cases of malarial fever is highly recommended by Ferreira, of Brazil ("Bull. gén. de thérap."; "Med. Chronicle"). In the case of a child to whom quinine had been given, but had been badly borne, on account of irritability of the stomach, two doses of 15 grains of the pereirine salt were given, half an hour apart. In the succeeding twenty-four hours there was a paroxysm, but its duration was shortened, and after a repetition of like doses, the next day, rapid recovery took place, with no further attacks.

Oat Flour in the Treatment of Burns is recommended by Greene ("Brit. Med. Jour."), on the score of its freedom from odor, its soothing and antiseptic properties, its superior healing power, its cheapness, and the ease with which it can generally be obtained at short notice. He directs a paste to be made of equal parts of the flour and fresh (unsalted) lard, to be applied spread on lint or old calico, the application to be renewed every day or every second day, according to the exigencies of the case.

A Fumigation for Asthma.—Sawyer ("Birmingham Med. Rev."; "Lyon méd.") recommends the following as having afforded the best results that he has observed among those of a great number of inhalants:

Potassium nitrate, Powdered aniseed, } each	2 parts;
Powdered stramonium leaves	4 "

A thimbleful of the mixture, fashioned into a little cone, is placed on a plate and lighted at the top.

Resorcin in the Treatment of Skin Diseases.—The "Union médicale" credits Ihle with the following formula:

Resorcin	10 to 15 parts;
Castor oil	90 "
Alcohol	300 "
Balsam of Peru	1 part.

This liniment is recommended by the author in the treatment of chromophytosis, eczema marginatum, alopecia areata, and seborrhœa.

ANSWERS TO CORRESPONDENTS.

No. 73.—The society has no legal power of supervision in the matter, but the action it took was quite proper and in the line of its duty to the public.

No. 74.—Address the Smithsonian Institution, Washington.

No. 75.—Dr. E. H. Bradford, of Boston, described the method in this Journal, vol. xxxi, 1880, page 24.

No. 76.—No English translation of the book has ever been published.

No. 77.—Milk is a good vehicle for chloral hydrate.

No. 78.—It was at the Cincinnati meeting, in 1880.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, November 12, 1887.

Lectures and Addresses.

ANNUAL ADDRESS OF THE PRESIDENT OF THE ALABAMA SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.*

By H. N. ROSSER, M. D.,
BIRMINGHAM, ALA.

It is with no little trepidation that to-day I enter upon the task devolved upon me, as the retiring president of this association, of delivering the "annual message," as required by our constitution and by-laws.

Upon analyzing this feeling, I find that it is not caused by the large attendance of representative men before whom I stand, from other States as well as that of our own, but rather that the eyes of our professional brethren from other sections of the country are upon us, as our association is an innovation, being, as it is, the first of its kind in the Southern States.

This effort of ours is not one of the "new South," but rather emanating from that spirit which has always characterized the men of our section as ready to lead in the van in politics, war, or in science. It is not necessary for me to enumerate the long list of men who have made the history of the South replete with deeds of heroism and of statesmanship. Nor of those in our own profession who have made us justly proud of hailing from the same section of country. It would be out of place, too, for me to attempt to personally mention the names of those who have sought wider fields for the gratification of ambition, and for rendering that relief to suffering humanity which has always characterized the life of the true physician.

The South was the home of Sims, who has been eulogized for his genius at home and abroad, than whom no brighter light ever shone in the galaxy of medical men who have "left their footprints on the sands of time." It would be but a small tribute to his memory if the women of the civilized world, through their united effort, were to rear a monument to his memory, surpassing anything known to ancient or modern history; for it was he, when struggling against the vicissitudes of fortune and of health, who kept ever before his great intellect their sufferings and the means by which they could be alleviated. Nor did he tire; but his efforts were crowned with success, and a new and a wider field for investigation in the diseases peculiar to their sex was opened to the medical world. The mantle of the great Sims has been thrown over a host of great intellects who have not been recreant to the trust, and to-day our section can vie with any portion of the country in the advance of medical thought or of efficiency of surgical operations.

The day has passed when it was necessary for our patients to be sent out of our section for surgical operations or gynæcological treatment, and our local talent stands ready and prepared to give any treatment which may be intrusted to their care.

As the tide of immigration pours in upon us, the physicians, feeling the impetus given to finance, commerce, and the various trades, have prepared themselves for the changed vicissitudes of life, and, knowing the necessity of the hour and recognizing the fact that our population is rapidly increasing, the Alabama Surgical and Gynæcological Association was organized last December, that the physicians of the State themselves, being more intimately associated one with another, becoming acquainted and familiar with their life-work, would give an impetus to the specialties of surgery and the diseases peculiar to women.

We recognize the necessity of thorough organization, and the large attendance at this meeting is but an assurance of the interest manifested in this association and an earnest of its perpetuity.

We have been gratified at the many letters of encouragement received from many of the prominent physicians of the State who were unable, from the press of professional duties, to attend this meeting, but more especially from those of men prominent as surgeons and gynæcologists from other States who have not only encouraged this association, but suggested the feasibility of the formation of a similar association for the Southern States; and, acting upon their suggestion, our secretary with commendable zeal has corresponded with quite a number of physicians of known ability from Virginia, through the Carolinas, Georgia, Florida, and westward across the Mississippi to Texas, asking about the feasibility of organizing an association for the South of surgeons and gynæcologists, and from nearly every one a reply has been received favoring such an organization and promising, if it was formed, to lend his aid toward furthering its success. With this end in view I would recommend that at this meeting a committee be formed to confer with those physicians from other sections of the South who have signified their desire and willingness to organize such an association and to draft plans for a permanent organization. Our Southern ability has already been too long ignored, unless it is transplanted and becomes Northern or Western, and thorough organization is the one plan by which the talent of the South can receive its just recognition.

I can not, in justice to the officers of this association, close this address without first complimenting them for their fidelity, more especially that of our secretary, upon whose assiduity our success to-day has largely depended. His duties have been stupendous, but with characteristic devotion to duty his task has been well performed.

I might with signal propriety refer to many topics which present themselves to mind in this my address to you, but deem it unnecessary, as I have every assurance that the importance of our association to the medical profession at large, and its genial and inexpressible benefits which will ultimately flow to suffering humanity, will soon prove to be axioms, and every avenue to thorough success will be suggested by my medical *confrères*, and the points which I fail to mention will be inaugurated and developed by my colleagues and those who follow me.

I take this occasion to congratulate you that our association one with another has been so pleasant, and that we close our first year of effort with the gratifying assurance that our labors have not been in vain, but will soon culminate, as I verily believe, in a full fruition of the joys which await the workers in every good cause.

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* Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

Original Communications.

TWO UNIQUE CASES OF CONGENITAL OCCLUSION OF THE ANTERIOR NARES.*

By WILLIAM CHAPMAN JARVIS, M.D.,
PROFESSOR OF LARYNGOLOGY AND RHINOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

Complete congenital stenosis of the anterior nasal orifices of the nature I am about to describe must evidently be viewed as an extremely rare condition, inasmuch as, after a careful and conscientious search, I have been unable to find a single case reported in the medical literature of the subject, and the two reported in this paper were the only ones discovered among more than ten thousand patients recorded at my university and Bellevue Hospital clinics, and in private practice. This observation and the fact that I am able to present a case of imperforate nostrils successfully treated by means of my nasal drills and an electric motor, re-enforced by an invitation from our esteemed president to read a paper before this association, are the principal motives which have induced me to infringe upon your valuable time.

The first case to which I shall invite your attention is that of a young man, eighteen years of age, who, though unprepossessing in appearance, showed a fair state of physical development.

He first consulted me in September, 1885, in search of relief from a life-long closure of both nostrils. The gentleman to whom I was indebted for this most interesting case stated that his attention was particularly attracted to the patient's condition by reason of an unfavorable prognosis pronounced in his hearing by a well-known surgeon, which was substantially that the condition of the young man's nose was irremediable, and that he had better submit to the annoying, though not serious, discomfort rather than undergo an operation the successful issue of which was involved in much doubt, a view which appeared quite plausible on making a superficial examination.

On ordinary inspection, the dark outlines of the anterior nasal orifices were seen to be replaced by two cup-shaped depressions about four millimetres in depth. This barrier consisted of a dense, white, glistening membranous wall, fringing the inner face of the alæ nasi, and fusing with the side of the septum lying opposite. The center of the cup-shaped depression in the right nostril was perfectly *smooth*, not being marked by so much as a wrinkle. A close inspection of the left anterior nasal orifice (Fig. 1) revealed the presence of a diminutive opening, *a*, at its upper portion, capable of accommodating with difficulty the point of a fine probe.

The external nose was large and well developed, excepting an insignificant transverse crease on the right side. An interesting feature was the striking enlargement of both the upper and lower lips. This peculiarity would appear to afford corroborative evidence of the accuracy of Ziem's view that labial hypertrophy might be present as a result of permanent nasal stenosis. The practice of posterior rhinoscopy was rendered quite difficult, but I finally succeeded in obtaining a satisfactory detailed sketch of both posterior nares.

The vault of the pharynx appeared perfectly free. Each post-nasal opening was distinctly visible; the right one, however, was seen to be imperforate at a point beginning about three eighths of an inch from the free edge of the vomer. The cause of this occlusion was, furthermore, distinctly visible as an extreme deflection of the vomer to the right, even to the point of contact with the opposite nasal wall.

The amplitude of the left choana was naturally increased at the expense of the right post-nasal opening, and it was possible to make out the left inferior turbinated body, although it appeared smaller than usual.

This brief outline will convey a general idea of the anterior and posterior rhinoscopic appearances.

In addition to the patient's personal record of a life-long discomfort from complete stoppage of the nostrils, I was fortunately able to obtain a detailed biography of the individual from the time of his birth.

This information was drawn from the young man's mother, and it might be added to her credit that she proved to be an intelligent and painstaking observer.

I have extracted the following brief notes from the *body* of her narrative, as constituting important evidence of the congenital character of the deformity: About six weeks after the birth of the child her attention was attracted to the infant's nostrils by a slight discharge. Shortly after making this observation she also observed that the child breathed with great difficulty through the nose. She directed the attention of her physician to the nasal difficulty, and, in accordance with his instructions, essayed to syringe the nostril, but her effort in this direction proved futile, for the reason that the fluid immediately rebounded on being projected into the nostrils. Snuff was then prescribed, but it was found impossible to sneeze away the obstruction. During the first year of the child's life she remembers having seen the pin-hole perforation already referred to as occupying the left nostril of the young man. From the moment she first noticed the obstruction in breathing, during the infancy of her boy up to the time of her application to me for relief, her son had never drawn a breath through the nostrils. The misery produced by this condition has proved the burden of her life. Ever and anon has she been aroused from her slumbers by the suffocative sounds made by her son struggling in his sleep for more air.

During these paroxysms the boy's tongue appeared to fall backward into the throat and so block up the only available avenue for the entrance of air into the lungs. It required violent shaking to arouse him from the stupor which accompanied these attacks, which, like similar manifestations observed in children suffering from the obstructive effects of enlarged tonsils, might be attributed to the carbonization of the blood resulting from deficient aeration of the inspired air.

As bearing upon the possibly scrofulous character of this anomalous condition of the nostril, the following notes, given to me by the mother concerning her son's state of health and that of her several children, may prove of interest. Mrs. F. recollects having suffered during her childhood with a nasal difficulty. The present condition of her nostril clearly demonstrates the pre-existence of either scrofulous or syphilitic disease. The external nose is in a state of collapse, a deep furrow running transversely across the dorsum at the level of the nasal bone. The tip of the nose is tilted upward, and anterior rhinoscopic examination demonstrated the almost entire disappearance of the cartilage of the septum, along with a considerable portion of the vomer and plate of the ethmoid bone. Both nasal cavities are abnormally spacious. She has borne seven children in all. Her first child had been subject to attacks of nose-bleed. One day, while at play, a ball accidentally crushed his nostril, provoking a profuse and persistent hæmorrhage, which only ceased with the child's life. The attending physician attributed the fatal result to a ruptured blood-vessel. Another son was subject to severe headaches, which were often accompanied by nose-bleed. He is now fifteen years old and a victim to catarrh. Only three of her children apparently possessed good health.

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* Read before the American Laryngological Association at its ninth annual congress.

Diagnostic Conclusions.—Basing my deductions upon the foregoing history and appearances, I would offer the following explanation to account for the origin of this remarkable nasal anomaly: The individual was probably, in the first place, born with a malformed nostril, the evidence of which exists in the form of the misplaced vomer, which could not assume its faulty position either from injury or disease. The right nostril was probably occluded anteriorly by a membranous wall at birth; the left nostril, perfectly free posteriorly, communicated, by means of a small orifice in the anterior nares, with the outside world. Possibly this was cicatricial.

A scrofulous coryza, occurring at or shortly after birth, was the probable cause for the discovery of the catarrhal flux and subsequent stoppage of the nasal passage. Contraction of this small orifice of escape evidently rapidly occurred until it was reduced to a mere pin-hole perforation.

The surgical treatment adopted for the correction of the condition just described was commenced on April 26, 1886, the first operation being performed at the University Medical College, before the students. A perforating drill having a quadrilateral cutting face, the four knives being arranged at right angles to each other, was employed to make the preliminary puncture through the dense fibrous membrane. This drill was propelled by an original modification of the common surgical engine. Weber's drill chuck was employed. The right cup-shaped depression having been sprayed with a strong solution of cocaine, the perforating drill, revolving at full speed, was directed against the obstruction, through which it easily made its way, reaching the free space in the deeper portion of the nostril. The instrument being then withdrawn, my rasp drill was introduced within the preliminary opening, which it promptly and freely enlarged laterally. At the conclusion of the cutting, rhinometric measurements showed the transverse diameter of the newly made nasal orifice to be just four millimetres, and the vertical measurement six millimetres. The slight hæmorrhage which followed the practice of this procedure was readily controlled by means of a pledget of cotton and did not inconveniently impede the progress of the operation. A free rush of air through the new nasal orifice convinced us of the success of the operation. The edges of the incised obstructing membrane appeared to be about two millimetres in thickness. On a subsequent occasion the right nostril was laid open by a repetition of the above procedure, with slight modifications. My patient, who had been formerly dismissed as cured, called upon me again in April, 1887. An examination of his nostril showed that, whereas the left anterior naris had remained patent, the other nostril had contracted to the size of a useless slit. He had realized so much comfort, however, from the use of his free nostril that he felt impelled to seek relief through another operation for the restoration of the right nostril. In reopening this nostril, I cut more freely with my drills than previously, removing the dense fibrous tissue up to the point of its attachment to the osseous walls of the nose. To insure perfect success, I took advantage of the opportunity and enlarged the already patent nostril to the extent of several millimetres.

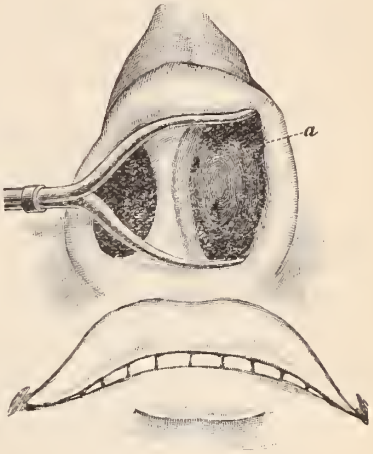

Fig. 1.

These sketches, taken from life, will enable you to appreciate the appearance of the nostrils before and after the performance of the several operations practiced for the relief of this unique and distressing malformation.

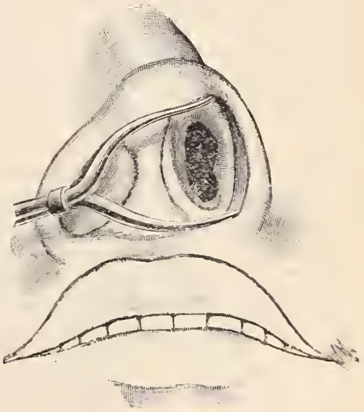

Fig. 2.

Electricity was utilized to obtain the motive force for propelling the drill during the second operation. The motor employed by me is known as the C and C motor. Different from the instruments of this kind usually found in the market, the C and C motor is supplied from a single quantity cell or from any ordinary galvano-cautery battery. The armature, which connects directly with the drill, revolves between fifteen hundred and two thousand times a minute. The motor and flexible shaft are manipulated while suspended in mid-air. The motions of the armatures are concealed by means of a metallic shell, which does away with the terrifying effects excited by the sight of the rapidly revolving axles.

By means of an adjustable connecting-rod I am enabled to attach the flexible cable to either side of the armature. It is obvious that this device permits me to use either right or left cutting drills. The force exerted by the motor is estimated as high as one eighth horse-power.

I also take this opportunity to present two other forms of my tubular drills, which I have termed, respectively, a spiral and interrupted spiral. They are better adapted for cutting through soft tissues than my tubular rasp drill.

The next case to which I shall direct your attention is that of a young woman, aged sixteen, who was brought to me by her step-mother in 1884 on account of an almost absolute stoppage of both nostrils.

As in the case just reported, the nose of this patient possessed neither respiratory nor olfactory value. The girl had been able at times to forcibly expel a little air through the nose. Despite the fact that the patient had never, within the memory of the mother, been able to use the nostrils, there was no deafness. The good hearing possessed by both of these patients would seem to disprove the accuracy of Toynbee's and Lucae's views concerning the injurious tension exercised upon the drum-heads during deglutition in individuals afflicted with nasal stenosis. The general health of the patient was poor. Her intellectuality, I believe, would be placed considerably below that possessed by young women of the same age. Whether this was due to the faulty conformation of her skull or was simply the natural intellectual dullness sometimes observed in individuals afflicted with long-standing nasal stenosis, or both, was an interesting though unimportant question.

Examination.—The first thing particularly noticeable about the young woman was the remarkable expression of her face. This peculiarity resulted from a variety of facial irregularities, conspicuous among which I might mention a flat, retreating forehead, an unusually broad interocular space, and the existence of two extraordinary prominences of the malar bones near each inner canthus. Add to this a drooping lower jaw, and you have a pen-picture of the unsightly physiognomy inherited by this unfortunate girl.

An examination of the anterior nares revealed the cause of the nasal stenosis in the shape of two pale-pink protuberances which appeared to completely block up each inferior meatus. The columna of the septal structures was intact, and no portion appeared to be involved in the deformity. My first impression that the two obstructing bodies were extensive turbinated hypertrophies was quickly dispelled upon touching them with a probe. In reality, they were composed of bone, which I afterward discovered was exceedingly dense in consistence. The mucous membrane covering the structures was exceedingly thin. These bodies impinged directly against either side of the septum, and it was found impossible to introduce a probe through the narrow crevice found at the point of contact.

An examination of the naso-pharynx revealed the presence of nothing abnormal in character, and the posterior nares appeared to be spacious and well shaped. Basing my deductions upon the gross appearances just given, and the structural conditions revealed while operating, I felt justified in regarding the formation as a congenital abnormity of the principal bones of the face associated with marked malformation of portions of the anterior nasal framework, especially the inferior turbinated bones.

The bony structure of the turbinated bodies possessed more the character of an eburnation than the common osseous shell. Its density was so great that the points of the rongeur forceps frequently clashed together without cutting the bone, although I had succeeded with the same instrument in readily removing ordinary turbinated osseous tissue. These constituted the principal peculiarities of this unusual deformity.

Inasmuch as my surgical efforts did not yield the satisfactory results hoped for, I will not detain you with the details of the operation undertaken for the relief of the patient. It might be worth stating that while she was under the influence of chloroform a channel was cut through the patient's nostril as far as the naso-pharynx, my rongeur forceps being employed for the purpose. The immediate good result—restoration of nasal respiration—proved delusive, inasmuch as the contraction which followed the healing process soon robbed us of the respiratory space we had acquired. Although my proposition to repeat the procedure was not received with favor, I am nevertheless confident that the employment of the electric drill in conjunction with intra-nasal dilators would have been followed by excellent results.

In concluding my remarks, I desire to notice the general significance of congenital occlusion of the nasal passages. This form of nasal stenosis is always referred to as an extremely rare condition. References on the subject are almost exclusively applied to abnormities situated in the choanæ; or, in other words, in the most obscure and inaccessible portions of the nasal cavities. The majority of these cases were reported as imperforate, the obstruction having the form of a bony plate, which spread like a web over one or both post-nasal orifices, and was directly continuous with the palate bone, of which it formed an integral part. Such a deformity, though demonstrated by a post-mortem examination to be possible, must nevertheless be viewed as almost unique in its occurrence. Though thoroughly convinced of the perfect sincerity of those who have from time to time reported cases of congenital occlusion, I feel, nevertheless, constrained to doubt the accuracy of their conscientious diagnoses.

Furthermore, I may add that I think any one is justified in taking exception to my own or any rhinoscopic diagnosis based upon an examination conducted by means of the finger in place of the mirror. Twenty recorded cases of congenital closure of the posterior nares in otherwise normal noses, many of which were double-sided, and not one of complete bilateral congenital occlusion of the anterior nares, is a disproportion that might well provoke surprise, or even incredulity. An inquiry concerning the unequal existence of these two conditions is most desirable. As one explanation, the strong probability of deflection of the vomer being mistaken for the plates of Luschka might be safely advanced. Congenital deflection of the vomer is a very common intra-nasal deformity. I have seen the misplaced vomer deflected to the point of contact with the lateral nasal wall. It requires no stretch of the imagination to picture an investigator, whose mind has been preoccupied with the idea of the existence of transverse congenital plates, thrusting his finger against an extreme deflection of the vomer and ratifying this preconceived impression. I consider a diagnosis of congenital transverse osseous plates or membranous occlusion of the choanæ, based upon digital exploration or the use of the probe, little better than mere guess-work. A careful and successful rhinoscopic examination should constitute the only criterion for the formation of such an important diagnosis.

Congenital deflection of the osseous septum has been shown to be an exceedingly common deformity, and therefore requires no especial mention in this connection. I have already considered its hereditary and pathological significance in a paper devoted to the ætiological relations between the malformed septum and pulmonary disease. The septum of heredity is almost invariably associated with an elevation of the roof of the mouth, which can often be traced back to a parental origin.

Finally, in order to indicate the scope of my unsuccessful search for the record of instances of congenital occlusion similar to those just described by me, I might mention the discovery of an interesting case of unilateral anterior stenosis in a cadaver dissected by Delstanche, which proved to be the nearest approach to my own. The left nostril was reported to be intact. The right nostril was imperforate, the alæ nasi being absent. Delstanche states that the condition was either congenital or acquired, and he favored the view of its being an inherited condition. It is to be regretted that the most important testimony in this case, the life-history of the individual, could not be obtained.

Instances of acquired stenosis of the nasal passages are exceedingly common, and therefore possess no particular interest for us in this connection. As is well known, they may result from adhesions incident to injuries, ulcerative processes, and abrasions of the septum.

The cicatricial adherence of the septum to the turbinated tissues is a common condition, and often occurs as the result of the free and careless use of caustics, the galvano-cautery, and unskillful operative attempts to remedy the deflected septum. These forms of acquired atresia are merely mentioned to render the presentation of the subject more complete, and to show that they have been properly excluded from the category of congenital occlusions of the anterior nares.

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ON THE ÆTIOLOGY OF DEFLECTIONS OF THE NASAL SEPTUM.*

By D. BRYSON DELAVAN, M. D.

Deflections of the septum, one of the most common conditions of nasal deformity seen at the present day, have been recognized more or less intelligently for many years. Comparing, however, the accessions of knowledge made during the past decade with the amount formerly known of them, we are forced to believe that a new era in their history has been opened, and that the full recognition of their nature and pathological significance has been fairly established.

With regard to their ætiology, however, much obscurity exists, and while this department of knowledge concerning them is full of interest and importance, it is only possible to find here and there a reliable suggestion regarding it. It has seemed well, therefore, to gather together in one article some of the scattered views upon the subject already advanced, and to bring forward at the same time certain observations and deductions which, in the course of a somewhat careful survey, have occurred to the writer.

And first, as introductory to the main topic and calculated to throw light upon many of its phenomena, it will be well to consider hastily some of the factors concerned in the development of the special and accessory structures which together compose the nasal organ, and to study their possible influence upon the abnormal conditions with which we have to deal. Watson tells us that in the infant the nasal fossæ are relatively smaller in size and much less complex than in the adult, their vertical diameter being remarkably small, the sinuses being not yet formed, and the lateral masses of the ethmoid being still cartilaginous. The cribriform plate of the ethmoid at birth is a mere membranous plane, continuous with the falx cerebri of the dura mater, and attached behind to the partially ossified body of the sphenoid. The vertical plate of the ethmoid, in other words, is cartilaginous at this period, while the vomer is already ossified. Some months after birth the nasal fossæ extend in all their diameters, and the different sinuses are developed. At the age of two years the frontal sinuses and ethmoidal cells have begun to form, simultaneously with the hollowing out of the antrum of Highmore.

This late development of the central portions of the skull provides not only for a certain amount of mobility in the bones during parturition, but, what is of no less importance, enables the alteration in bulk of the surrounding bones and cavities in the process of growth to go on without any rigid impediment in the center, and the full development of the soft tissues, and especially of the nerves, is possible without the risk of compression by the encroachment of bony deposits in the channels for their transmission.

From what has been said it is plain that, in the history of the development of the nose in the infant, the septum is one of the last parts to assume its ultimate form. Indeed, Zuckerkandl maintains that during this formative period it is always straight, and that deflections do not occur until the seventh year. This latter view, from clinical observation, the writer is inclined to doubt.

Again, the turbinated bones are not formed until a late period in the development of the fœtus, the inferior turbinated bone being ossified from a single center, which only appears at birth (Quain).

It follows, naturally, that the tardy development of these parts is succeeded later in the history of the individual by a very considerable activity of growth.

Finally, it will appear that: (*a*) There is an inequality of development at the outset, the vomer being ossified while the perpendicular plate of the ethmoid is still membranous, and the turbinated bones practically yet unformed. (*b*) That the process of development goes on with great rapidity at certain periods after birth. (*c*) That any considerable condition of development is not probable before the age of seven years. (*d*) Again, the posterior free border of the vomer, looking toward the pharynx, is, as a matter of clinical observation, almost invariably straight. This portion of the bone is also particularly thick and strong. Its vertical diameter is decidedly less than that of the more anterior part, and it is situated remote from the probability of injury. It therefore seems reasonable to suppose that the straight position is the one assumed at the outset, and that it is maintained posteriorly by reason of the inherent strength of this part of the vomer, by its short diameter, and by its protected situation.

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* Read before the American Laryngological Association at its ninth annual congress.

The anterior aspect of the vomer, for exactly contrary reasons, is liable to displacement, and, as a matter of fact, these displacements commonly exist.

These considerations all point directly to the inference that the septum—made up of several plates unequal in strength and in the power of resisting compression, uneven also in development, and, finally, incased in an unyielding cavity closed by the ethmoid above and firmly buttressed by the arch of the palate below—bends in the direction of the least resistance, and, as the process of growth goes on, overdevelopment is attended with a pushing aside of the various parts from their normal planes, and thus the production of deflection results. It is probable that many of the so-called congenital deflections may be thus explained.

The causes of deflection of the septum may be divided into two principal groups:

I. The predisposing.

II. The exciting.

The predisposing causes are:

(*a*) Race.

(*b*) Diathesis.

(*a*) One of the most important and interesting questions connected with this subject is the influence of race upon the development of the nose. That a predisposition toward certain marked characteristics of form should exist among the representatives of a given race is beyond a doubt. Thus, among the ancients, the Assyrian and the Grecian, the negro and the Roman, all presented external characteristics which were unmistakable, and which clearly identified the wearer as belonging to his own particular division of the human family. To-day, as before, the same conditions of race peculiarity prevail, the varieties of form observed among people of the same region being due, in all probability, to the general commingling of races which has occurred throughout many parts of Europe.

Nor is it in the external resemblance alone that this tendency is displayed. The general shape and arrangement of the interior frame-work of the nose seem to follow the example of its outer contour, and the development of deviations from the normal to occur far more commonly in certain types of man than in others.

In the course of studies made upon many thousands of specimens, both in this country and in Europe, the writer has found several suggestive facts:

1. That among European races deflections of the septum are of common occurrence, 50 per cent. of all specimens showing a greater or less degree of deviation.

2. Of the different nationalities of Europe at the present day, the highest proportion of deformed septa is found among the Sclavonic and Hebrew races. Thus skulls of Russians, Bohemians, Poles, and Hungarians are more apt to show deflected septa than those of the Germanic, Celtic, and Norman types.

3. In the anthropological collection of the Peabody Museum at Cambridge, Mass., is a cabinet containing eighteen well-preserved specimens of skulls taken from ancient Roman tombs. Among these there is hardly a single instance in which the septum is straight, while in seven of them the degree of deflection is excessive, and far beyond that usually seen.

From this it would appear that the aquiline type of nose, as illustrated in the Sclav, the Hebrew, and the ancient Roman, is particularly apt to be associated with deflection, and there are many mechanical reasons why this statement should be true.

Strange to say, however, the type found by the writer to be freest from deformity of the septum is the American Indian, in whom the aquiline nose is characteristic. Indeed, among hundreds of specimens, it has been difficult to find a well-marked example of deflection, and, of the few discovered, the degree of deflection was generally very slight.

Again, among the Grecian type, deformities of the septum are common, and sometimes severe. These cases, as well as those of aquiline type, are often associated with a high-arched condition of the hard palate; in other words, there is in them a tendency toward the throwing upward of the palatine arch, and a corresponding projection forward of the nasal prominences of the superior maxillary bones.

The general drift of the testimony offered by anthropological collections containing a variety of types is toward the fact that, among primitive types, deformities are rare, while among types representing the highly civilized and luxurious they are of such common occurrence as to become almost the rule. The reason of this may be fairly based upon the following explanation—namely, that in the production of deflections of the septum chronic catarrhal conditions are an important factor, for we know that amid the surroundings of a high state of civilization, or rather of an overcrowded population, there flourish the very conditions of bad hygiene, lack of exercise, overfeeding, mouth-breathing, diathesis, etc., under which catarrh is most apt to occur.

A second predisposing cause of septal deflection is diathesis.

In patients suffering from the rhachitic, the strumous, the tubercular, or the syphilitic dyscrasia, deformities of the septum are common, as may be readily observed among such subjects in clinical practice.

II. The exciting causes of deflection of the septum are:

(*a*) Traumatism.

(*b*) Local malnutrition.

(*c*) Occlusion of the respiratory passages of the nose.

(*a*) *Traumatism.*—In a series of examinations made by Dr. J. W. Robertson, of Detroit, it was found that of two hundred and seventeen subjects of nasal deformity, eighty-three gave histories of injury having been received; and of the ninety-seven remaining, having no such histories, one half had received injuries in early life which had been forgotten, since many of them had dislocations of the cartilages and fractures of the nasal bones, which could only have been the results of external violence. It would appear from the foregoing that a large percentage was directly due to traumatism. As to the ages at which their deformities occurred, in a total of one hundred and sixty-one children from two to ten years old, only seven deformities existed. Four of these gave histories of injury. In a total of seventy-two children between ten and twenty, there were found twenty-two deformed noses. Of these, six gave histories of injury, while in sixteen the causes were unknown, although five had dislocation of the septum, and one had disarticulation and depression of the nasal bones. A number of these cases were not due to injury gave histories of syphilis, scrofula, or tuberculosis. It would appear, therefore, from these statistics, that a large proportion of nasal deformities manifest themselves between the ages of ten and twenty, a period of great constructive activity, either through the receipt of injuries or through improper development due to malnutrition.

(*b*) *Local malnutrition*, as was pointed out by Dr. Ingals in his paper read before this association in 1882, is an important factor in the production of deflection. It is even more influential in the formation of the bony spurs, crests, or ridges commonly found at the line of junction of the vomer with the maxillary ridge, and which may so effectually occlude the anterior nares. While it is highly probable that such deformities often originate from injury, it can not be questioned that they are observed to increase regularly in size, under conditions of inflammation of the overlying mucous membrane and consequent supernutrition of the denser parts of the adjacent bone, until dimensions far beyond the original are attained.

Again, deviation of the septum may be associated with general asymmetry of the nasal fossæ.

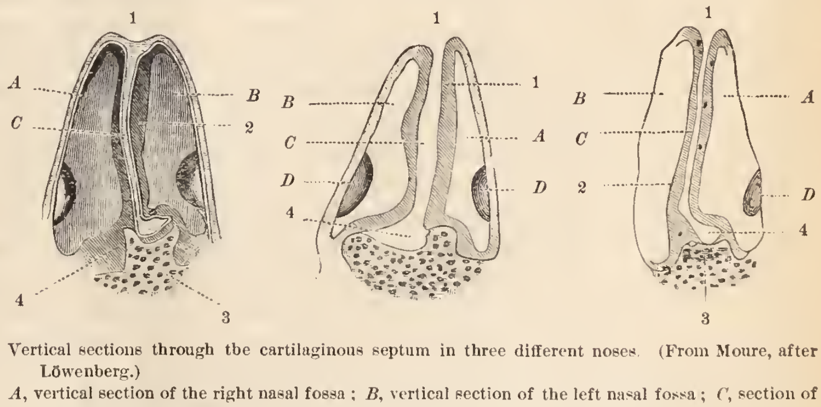
Such asymmetry, although usually considered congenital, is probably, in most instances at least, due to causes occurring during the growth of the child. The view that stenosis of one nasal fossa may, through the withdrawal from that fossa of its proper nutrition, cause an inharmonious development of that one as compared with its fellow, seems, according to Ziem, to be strengthened by the results obtained by excluding the entrance of air from one nostril in young animals. In these, it has been observed, there was developed a deviation of the intermaxillary bone and of the sagittal suture toward the occluded side; also shortening of the nasal bone, frontal bone, and horizontal plate of the palate bone of the same side; flattening of the alveolar processes; reduction of the distance between the auditory canal and the alveolar process, as well as between the zygomatic arch and the supra-orbital border, and smaller size and asymmetrical position of the vascular and nerve canals on the closed side of the nose, together with inequality of the distance of the two orbits from the median line.

It is easy to believe that occlusion of one nasal fossa in a growing child by a large, turbinated hypertrophy, unilateral hypertrophied tonsil, or adenoid growth at the pharyngeal vault, might, by depriving the occluded side of its proper nutrition, cause general asymmetry, and, with it, serious conditions of deflection.

Finally, occlusion of both nasal fossæ, from any cause, is capable of making the patient a mouth-breather. Now, one of the diagnostic signs of habitual mouth-breathing is the high-arched, narrow, hard palate, associated with which deflection is so often found. The explanation of this must lie in the fact that the septum is crowded upward by the hard palate until it can no longer resist the pressure brought to bear upon it, and deflection results. The cause of the palatal deformity seems most readily explained upon the theory of atmospheric pressure, occlusion of the nasal passages creating in them, through the act of inspiration, a partial vacuum, and thus disturbing the equilibrium of pressure upon the upper and the lower aspect of the roof of the mouth. This inequality of atmospheric pressure, exerted during the infancy and early growth of the child, is sufficient, as seems in many cases probable, to give rise to a permanent condition of deformity of the hard palate, and thus to interfere with the normal development of the septum, which, in turn, is still further distorted by the abolition of the natural process of nasal respiration.

In addition to the more serious conditions of deflection of the bony parts there are commonly found deviations and deformities of the anterior or cartilaginous portion of the nasal septum which are sufficiently pronounced to cause discomfort and to merit attention. They are probably of traumatic origin in nearly every instance. It is not uncommon, either, for the surgeon to see recent cases of actual dislocation of the cartilaginous septum resulting from recognized causes of injury.

Some of these are well illustrated in the accompanying cuts.



Vertical sections through the cartilaginous septum in three different noses. (From Moure, after Löwenberg.)

A, vertical section of the right nasal fossa; *B*, vertical section of the left nasal fossa; *C*, section of the septum; *D*, anterior extremity of the inferior turbinated; 1, cartilage of the septum; 2, Schneiderian membrane covering both sides of the septum; 3, maxillary ridge.

These, however, are more apt to be due to the habitual bending of the tip of the nose in a given direction, as in blowing the nose with one and the same hand, and, since it is a matter of history that misshapen alæ in the young may be made straight by a process of systematic molding, there seems no reason why the converse should not be true. The last-mentioned conditions are important, and deserve more care than they have hitherto received.

From causes so diverse as those which have been herewith presented, and in an organ the size of which is considerable and the relations of which are somewhat complex, it follows that the structural deformities which may occur are greatly varied, both as to character, position, and degree. To discuss them in detail does not come within the limit of this paper, and is besides unnecessary, since they have been well described elsewhere by other writers. It is probable that with a better understanding of the subject the special causes of the different recognized forms of deflection will be more precisely classified. At present we may hazard the following general statement:

1. That deflections of the cartilaginous septum are due, as a rule, to trauma.

2. Bony ridges along the line of suture of the septum with the superior maxillary bone are often initiated by trauma, and subsequently aggravated by supernutrition; otherwise they are due to hypernutrition alone.

3. Deflections of the nasal septum proper may be due either to trauma or to improper nutrition. They are generally due to the latter if situated posteriorly.

In conclusion, it must suggest itself to all that variety of deformity demands variety of treatment, and that to meet the requirements of each case many different expedients must be employed. It is as impossible to relieve all of the various forms of deflection of the septum by any one method of operation as it would be to treat all fractures occurring from the ankle to the hip with one form of apparatus.

ELECTRICITY IN GYNÆCOLOGY.*

By A. D. ROCKWELL, M. D.

I take great pleasure in complying with the invitation of your president to fill one of the evenings devoted by the physicians of Harlem to the consideration of practical medical and surgical topics.

My theme will be the relation of electricity to some of the diseases of women, a subject that of late has excited no little interest, and mainly through the labors of Apostoli, of Paris, the leading apostle of a better therapeutic method in this special department of medicine. At the outset I beg to disclaim any pretensions to expertness in gynæcology. Electricity undoubtedly finds its widest field in neurological cases, to which I have mainly devoted myself, and yet it is by no means to be restricted to these conditions. It is of value in ophthalmology, laryngology, dermatology, and obstetrics, but, aside from neurology, it is in certain gynæcological cases that its greatest efficacy lies. While, therefore, not a gynæcologist in any strict sense, yet my work along the line of electro-therapeutics has led me to see much of the diseases peculiar to women, and I may fairly lay claim to some little experience in that direction. I have for years believed that electricity should hold a far higher position in the armamentarium of the gynæcologist than it has yet held, for long ago, before it had even a foothold in medical science and when blind empiricism was the only basis for its use, it frequently wrought cures after the failure of known and accepted methods of treatment.

Electricity in its relations to those three cardinal symptoms of deranged menstruation—amenorrhœa, dysmenorrhœa, and menorrhagia—was as capricious and paradoxical as it sometimes proved to be in its application to nervous derangements. It would excite the menstrual flow when absent, decrease it when profuse, and temporarily and sometimes permanently relieve the pain that might be attendant upon these conditions, and then, again, in other cases would fail utterly to accomplish what previous experience had given us every reason to expect. Its action was a seeming paradox in that it relieved diametrically opposite conditions, and capricious because at one time it would relieve and at another fail to do so. As a matter of fact, however, the remedy is neither capricious nor paradoxical in its action.

It works in accordance with certain fixed laws, and its chemical activity is under such perfect control that it will perform for us the exact measure of work desired, so that now, with our better knowledge of its physics and its physiology, and by the aid of correct current measurements, and electrodes properly adapted, it is possible to obtain far better results in the future than in the past. The seemingly capricious action of electricity, then, in conditions of disordered menstruation, is in great measure due to our imperfect knowledge of the various factors that go to make up these morbid states, and as increasing knowledge enables us to fit more accurately the remedy to the disease, so shall we with greater certainty be able to differentiate between those menstrual derangements which can and those which can not be cured by electricity. I will first say a few words about amenorrhœa, dysmenorrhœa, and menorrhagia as they occur independently of any uterine growth.

In amenorrhœa, electricity is more especially indicated in those cases that are dependent on some constitutional cause associated with chlorosis, and upon imperfect development or atrophy of the organs of generation. It is needless for me to say that in chlorosis and anæmia, amenorrhœa is the natural condition, and efforts to force the menses by any form of local treatment would be entirely out of place. On the contrary, it is, I believe, understood that where menstruation persists along with a decided anæmic condition, the lining membrane of the uterus may itself be diseased and call for local treatment for the purpose of *stopping* the flow. It is in amenorrhœa existing as a symptom of anæmia that electricity, through general and not local methods of application, is especially indicated. It is not to be used to the exclusion of iron and other tonics, but in conjunction with them. Treated in this way, cases of long-standing anæmia—with their associated symptom, amenorrhœa—will recover far more rapidly than when internal medication alone is relied upon. Great mistakes are committed in the treatment by electricity of amenorrhœa associated with anæmia in applying the galvanic current directly to the uterus.

Localized galvanization is not indicated in these cases; on the contrary, as I have had abundant occasion to observe, it tends to induce a condition of nervous irritation that is exceedingly unpleasant. It is in these conditions of amenorrhœa where the patient is weak and anæmic, with perhaps other indications of constitutional disturbance, that the faradaic current is strongly indicated over the galvanic. On the other hand, in those cases of amenorrhœa where the patients are robust and of full habit, galvanism is likely to be of far greater service than either the faradaic current or franklinic electricity.

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* Read before the Harlem Medical Association, October 20, 1887.

Another well-recognized cause of amenorrhœa is atrophy, as well as arrested development of the uterus. The well-known power of electricity to variously modify nutrition would indicate its use in these conditions; practically I have found it to be efficacious in several cases, and see no reason why it should not always be of more or less service. In superinvolution, also, it may be tried with expectation of success, provided there is evidence of active ovulation.

If there are no such evidences, the probabilities are that neither electricity nor any other remedy will be of service.

Dr. Fordyce Barker has enumerated the following symptoms at or near the menstrual period as evidence of the existence of ovulation associated with superinvolution: intense headache, flushing of the face and congestion of the eye, pelvic pain and sense of dragging, with nausea, vomiting, etc. It is interesting to note that in the single case of superinvolution that I have successfully treated, all of these disturbing symptoms were present, and all disappeared with the return of menstruation.

I may add that in this case the condition followed a dangerous and difficult labor. For two years menstruation had appeared but once or twice, and upon measurement the uterus was found to be but one inch and three fourths in length.

Dysmenorrhœa.—Speaking from no inconsiderable experience in the treatment of the disorders of menstruation, I confidently assert that the greater number of cases of dysmenorrhœa, taking the cases as we find them in ordinary practice, can be very much relieved by electricity and many of them permanently cured. From this standpoint, therefore, it seems to me not a little singular, as well as a notable defect, that the subject is dismissed with such brief notice, and sometimes not even mentioned, in most treatises and monographs devoted to the diseases of women. Obstruction to the free flow of blood must be regarded as the main cause of painful menstruation, and when this obstruction is due to mechanical causes, such as stenosis, the electrolytic method is to be used.

In the vast majority of cases, however, while there may be often found changes in the lining membrane of the uterus, there yet exists no serious structural change or mechanical obstruction. Whatever the condition of the endometrium, which fails to allow the free flow of blood into the cavity of the uterus, thus causing distension and pressure with pain of greater or less severity, the free and steady flow of the galvanic current through the uterine organs is most efficacious in relieving this congestion and preventing pain.

It should be applied just before menstruation and repeated every day if necessary until the flow appears. In those cases where there is usually a long struggle and great delay I have, by these applications, frequently caused the menses to appear promptly on time, and without the slightest suggestion of pain.

The faradaic current will occasionally relieve dysmenorrhœa, but for obvious reasons it has no such influence over the condition as galvanism. Another cause of dysmenorrhœa, for the relief of which I have good reason to place great faith in the absorptive action of the galvanic current, is the pressure occasioned by the exudations following attacks of pelvic cellulitis. In these cases the treatment must often be prolonged, and months may be consumed in the efforts to dissolve the products of exudation, but the results that follow more than compensate for the time and trouble expended.

Menorrhagia.—The medical use of electricity has not such influence over excessive as it has over painful menstruation, although electrolytic treatment when uterine fibroids or polypi are the causes not infrequently effect most marvelous changes. I have, however, met with several cases of menorrhagia occurring toward the decline of sexual activity where simple external applications by the method of general faradization have proved most effective measures of relief. These cases are generally associated with constipation, torpidity of the liver, and often with nervous exhaustion, and the indications are excellently met by the powerful constitutional effects of this most valuable method of treatment.

When discussing the subject of electricity, my inclination is always to dwell upon and emphasize the importance of general faradization.

For twenty years it has been an indispensable part of my practice, and the enunciation that I then and have since made of its range of usefulness I see no reason now to change. It is an old story, and I will not further dwell upon it, but would urge every one who uses electricity at all to make himself familiar with the *rationale*, *modus operandi*, and effects of general faradization.

Fibroids and Pelvic Exudations.—I now come to what I more especially have in mind in calling your attention to the use of electricity in gynæcology, and that is the treatment of fibroids by electro-puncture, and old exudations by currents of greater efficiency than have hitherto been attempted. As I remarked at the outset, and as you are all aware, to Apostoli, of Paris, belongs the credit of boldly overstepping the bounds thought to be safe in treating the uterus and its appendages, and using currents of great power.

Now, while acknowledging the indebtedness of gynæcology to Apostoli, and fully appreciating the great benefit that must accrue from the more general use of the better methods now at our command, I do not believe that a more extended experience will fully confirm all that has, with so much enthusiasm, been maintained by some of his followers. We must not ask of electricity more than it can give, and it has already been very generous. It is not a universal means, and we must not make it a panacea, for fear of falling into charlatanism; let us avoid with care anything that will bring us near it. Hitherto one important defect in the treatment of morbid growths, both internal and external, has been the use of too weak currents. This has been due partially, perhaps, to a commendable caution in dealing with an agent so potent as electricity, but more to our lack of definite knowledge of the amount of current strength needed to accomplish certain ends, and our inability to readily command more than a certain limited working power from the apparatus in ordinary use. A third obstacle was the absence of any instrument by which the current could be accurately measured, and this to the novice was a defect practically insurmountable in his efforts for anything like uniform results.

The improved milliampèremeter has overcome this difficulty and is indispensable in all electro-surgical operations, besides being a vast aid in all electrical applications. Instead of a strength of current equal to only ten to thirty milliampères, which was commonly used, and which indeed was all that could be obtained from the appliances in use, it is now no uncommon thing to use currents even of several hundred degrees of strength. For this purpose the external electrode must not only be material of the best conduction possible, but of suitable size and sufficiently flexible to be perfectly adjusted to every inequality of surface which it covers. The strength of current from a given number of cells is directly in proportion to the size of the electrodes.

Thus, if from a series of cells fifty in number we obtain, when the current is passed through electrodes of a certain size, a strength of fifty milliampères, electrodes of similar pattern, but double the size, will yield a current strength of one hundred milliampères. As to the quality of the electrodes, sponges are too bulky and offer too great resistance when our object is strength of current.

As a substitute, Apostoli uses sculptor's clay, held in place by gauze. This material holds moisture fairly well, can be adapted closely to the skin, and is undoubtedly an admirable electrode. The electrodes that I ordinarily use, however, for purposes of local application consist of layers of absorbent cotton spread smoothly over flexible metal backs of varying size.

The material is easily obtained, and so inexpensive as to warrant a fresh supply for every patient. In all this, reference is, of course, made to the external electrode, which, in the treatment of the uterus and its appendages, is usually placed upon the abdomen.

The internal electrodes consist mainly of a small metal bulb attached to a long insulated stem for application to such portions of the uterus as can be reached *per vaginam*, of a metal probe electrode for intra-uterine applications, and of needles of varying sizes and lengths for the purpose of electro-puncture.

Much has been written about positive and negative electro-cauterization, by which is meant the application of the bare metal electrode, using a current of sufficient strength to produce actual cauterization. I have no hesitation in saying that by this method, especially when the cavity of the uterus is treated, it is possible to inflict much damage. That it is occasionally a useful procedure, especially in the treatment of stenosis of the cervix, is true; but it can not often be necessary to deal so heroically with the delicate tissues of the interior of the uterus. In all efforts to obtain absorption of the products of exudation the electrode should be properly covered. In this way currents of great strength can be used possessing remarkable powers of absorption, but with little, if any, tendency to injure the intervening mucous membrane. As illustrative of the satisfactory results that may follow this comparatively mild but efficient method, I will narrate a case that has only lately passed from under my care. It is very similar to a number that I have had, and to one that was reported some time ago.*

Mrs. K., aged twenty-nine, was married at the age of twenty-two, and had given birth to three children.

After the birth of the last, three years ago, she suffered from several mammary abscesses, and also from an attack of pelvic cellulitis.

After the lapse of eighteen months her menses came on, and have since appeared at irregular intervals, being sometimes scanty and sometimes profuse, and always attended with excessive pain. Aside from these local symptoms, the patient was far from well, complaining of an army of symptoms, nearly all referable to the nervous system.

She was sleepless, hysterical, despondent, and was, according to the physician under whose care she had been for the previous six months, and who, strange to say, had never made an internal examination, simply "neurasthenic."

I found an enlarged uterus, and indurations almost encircling the os and extending along the pelvic floor. Covering the internal electrode with a sufficient layer of absorbent cotton, I applied it to the diseased parts, placing the flat external electrode (dimensions, four by six inches) over the abdomen. With the electrodes thus in position, I slowly increased the strength of the current from twenty to fifty milliampères, continuing the application for ten minutes.

This she bore very well, so that from time to time the strength was increased, until occasionally, for a very brief period, she would receive as high as one hundred milliampères.

This patient was under my care for four months, and received some forty-five applications similar to those described. After the administration of six of these applications, an entirely painless menstruation occurred, and every menstruation since has been of the same character. Not only has the dysmenorrhœa been subdued, but the courses come on with a reasonable degree of regularity, and are nearly normal in appearance and quantity. The exudations have in great measure disappeared by absorption, and *pari passu* the constitutional symptoms improved.

It is in the treatment of fibroid tumors of the uterus by electrolysis that the new departure in regard to greatly increased strength of current is more especially applicable.

If the tumor is in a position to be readily reached, there is no question of the propriety of resorting to electro-puncture, nor of its good effects, any more than there is of the results that may follow simple local galvanization. The difference between the two is, that local galvanization of the tumor is a slow and tedious method, occupying months to accomplish even a small reduction, while electro-puncture produces far greater effects in a much shorter space of time. It is almost incredible how many symptoms sometimes disappear after the very slightest reduction in the size of a fibroid tumor, or of an enlarged uterus, or of the products of inflammation, and for this reason the simpler, safer, and less disagreeable procedure is by no means to be despised, when, for any reason whatever, the other is not feasible. I have seen a good number of cases where difficulty and pain on micturition—due to pressure on the neck of the bladder, rectal difficulties due to pressure there, dysmenorrhœa, and menorrhagia, together with other pains, and impaired locomotion—have been either cured or greatly alleviated by simple local galvanization, which has only succeeded in dissipating a small fraction of the supposed cause of these symptoms.

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* "Medical Record," December 5, 1885.

Nor will electro-puncture, as a rule, entirely dissipate a fibroid tumor, although it will reduce it far more than the simpler method. But, if it will not entirely dissipate it, it will, to use an expressive term, so shrivel it that it becomes quite harmless, and the patient symptomatically cured.

In the treatment of fibroid tumors, then, if any should desire to test the efficacy of electro-puncture, the following suggestions may prove of service: The first requisite, of course, is an apparatus with a sufficient number of cells, needles for introduction into the tumor, and a proper external electrode. The second requisite is a milliampère-meter with a registration of over a hundred, and at the same time, if possible, one that does not oscillate so persistently as those in common use.

Excepting in those cases where the object is to control hæmorrhage, the needles should be attached to the negative pole, while the positive pole for application over the abdomen should consist of an electrode similar to those that have been already referred to.

Those that I have more recently used consist of a flexible metal back, five inches wide by eight long, and covered by several layers of absorbent cotton, so as to present a perfectly smooth and even surface.

This is placed upon the abdomen, and may be pressed upon and kept in position by the hand of the patient herself, if no assistant is present. The needle or needles are now introduced into the tumor, and the current gradually increased without interruption until the required strength is obtained.

I have myself never used more than one hundred and fifty milliampères, although Apostoli and some others have used currents considerably higher in tension.

The duration of the séance may be from five to ten minutes, and even longer, if the patient bears it well. Too much stress can not be laid upon the necessity of an entire absence of any interruption of the current during the treatment. In trivial operations where the tension is slight this is not of such vital importance, but in the treatment of conditions where a very great strength of current is necessary a shock would decidedly disturb a patient of even strong nerve, and inflict serious damage on many. No one would willingly do this, but there are so many possible disturbing factors to the steady working of the current that, from my personal knowledge of the condition in which physicians too frequently keep their electrical apparatus and appliances, these interruptions are liable to occur at any moment and when least expected or desired. It is to be doubted whether many patients would submit themselves to a second trial after having received a shock from a current strength of one hundred milliampères.

Case of a Fibroid Tumor Associated with Dysmenorrhœa, Menorrhagia, and Many Nervous Symptoms; Electro-puncture with Currents of 100 Milliampères greatly reduces the Growth and Practically cures the Menstrual Disturbances and Associated Constitutional Symptoms.—Mrs. M., aged twenty-nine, consulted me, May 2d of the present year, for symptoms other than uterine.

She suffered a good deal from neuralgia, was decidedly anæmic, and in a poor condition generally. She complained of leucorrhœa and an irregular and unsatisfactory menstruation that was usually attended with much pain and an excessive flow. She incidentally mentioned that she had a tumor, but supposed that nothing could be done for it.

I examined her and found what appeared to me to be a submucous fibroid that had distended the uterus to a considerable degree. I first introduced into the vagina a metal electrode properly covered, and concentrated a current of 50 and finally of 75 milliampères, as nearly as possible, through the fibroid mass.

This I repeated twice a week for a month, and, although the appreciable diminution in size was but very slight indeed, there was an undoubted improvement in the character of the two menstruations that occurred in the mean time.

I now introduced a needle, insulated to within half an inch of the point, well into the tumor, placing the broad external electrode over the abdomen. The needle was connected with the negative pole, and the strength of current gradually increased to 50 milliampères.

One week subsequently I used a current of 75, increasing it at the third treatment to 100 milliampères. At intervals of a week I made four more applications similar to the last, with the result of so reducing the size of the tumor as to lead me to the belief that it was not more than one half its original size. I then found it difficult to further use the needles, and for two months more resorted every few days to applications such as were first attempted. This patient may now be considered well, so far as her symptoms are concerned. The tumor has by no means entirely disappeared, but she suffers no more either from dysmenorrhœa or menorrhagia, and can freely engage in exercise and manual labor almost equal to her best days.

The results following galvano-cautery and electrolysis vary according to the pathological condition, and are worthy of study.

The statements which I here make are based mainly on observations in a great number and a large variety of external tumors, but they are in all probability equally applicable to internal growths.

Many years ago, through the kindness of the late Dr. James R. Wood and Dr. Frank H. Hamilton, I experimented upon quite a number of benign and malignant growths in the wards of Bellevue Hospital, with results that were subsequently of the utmost value to me. I then found that scirrhous cancers, although they could not be cured by electrolysis, could be very much relieved as regards pain, and the size sometimes considerably diminished. I found also that electrolysis, if it failed to do more than relieve the pain, had no tendency, if properly used, to excite ulcerations around the point of entrance of the needle. That it is capable of doing this, however, I had occasion to see the other day in consultation. Quite strong and frequently repeated currents had been used through large uninsulated needles. The result was a circular raw mass, projecting above the surface, which refused to heal. Myxo-sarcomas act badly under electrolysis. Around the point of entrance of the needles slight ulceration at first appears, and subsequently unsightly fungoid growths. The treatment in these cases undoubtedly tends to hasten rather than to retard their progress. Sarcomas do not ulcerate so readily, but they can not be treated with the same freedom as scirrhus.

Fatty tumors can be treated by electro-puncture and by very strong currents, not only without bad effects, but with the prospect of very materially lessening their size in many cases, and occasionally causing them to entirely disappear. Fatty tumors are, of course, very bad conductors—much worse than the hard fibroids which electrolyze so slowly—yet they do disappear.

This fact leads me, in conclusion, to refer to the two methods of action through which we obtain results from electrolysis. The first and most apparent is the absolute destruction of tissue which takes place at the time of treatment. It is unnecessary for me to enter into the physical details preceding and accompanying the destructive action of the galvanic current. It is sufficient to say that a molecular separation takes place, more or less marked, according to the density or softness and fluidity of the tissues. Some suppuration may follow, and thus, by an actual loss of substance apparent to the sight, the tumor decreases in size. If, however, these were the only active forces in the electrolytic process, the method would lose much of its effectiveness. If this be not so, how can we account for the many well-attested cases where morbid growths have entirely disappeared under simple external applications? Herein is the difference between the electrolysis of organic and inorganic substances. In the electrolysis of inorganic substances the effects cease as soon as the current ceases, the substances remaining in the condition that the current left them. The electrolysis of organic substances, on the contrary, starts a process that continues long after the current ceases to flow. Besides this subsequent effect, this retrograde metamorphosis, as it has been termed, the current penetrates the tissues, and induces various important changes beyond and beneath the eschar, and these combined agencies do far more in many cases to diminish the size of morbid growths and prevent further development than an actual destruction of a limited area.

OBSERVATIONS ON THE CHOLERA BACILLUS
AS A MEANS OF POSITIVE DIAGNOSIS.

By S. T. ARMSTRONG, M. D., and J. J. KINYOUN, M. D.,
UNITED STATES MARINE HOSPITAL SERVICE.

On September 24th it was reported in the public press that the steamship Alesia had arrived at the port of New York on the previous day, having had 609 immigrant passengers on board, of whom eight had died of cholera *en voyage*, and several suffering from that disease had been admitted to the Swinburne Island quarantine hospital on arrival. According to the captain's report, the first death had occurred September 12th, the rest of the deaths occurring and cases developing within eleven days. Subsequently new cases, some fatal, occurred.

At the request of the writers, the health officer, Dr. William M. Smith, accorded the privilege of visiting the hospital, in order to examine the patients and secure material for bacteriological investigation. The patients were first seen by the writers on October 3d, when cultivations were made from excreta obtained at that visit. Plate cultivations were made on the 5th, and characteristic colonies of comma bacilli were found on the 6th, conforming in every particular to the description given by Koch. On October 9th it was reported in the public press that Dr. Shakespeare, of Philadelphia, had, from inoculations made by him from excreta obtained from these patients, also found the comma bacillus.

On October 13th the steamship Britannia, belonging to the same company as the Alesia and coming from the same points in Italy, arrived at this port with 406 passengers on board. *En voyage* there were three deaths of emigrants; the diagnosis, though pointing to intestinal trouble, Health Officer Smith considered obscure, and held the vessel in quarantine.

On October 17th Dr. Smith requested the writers to visit the quarantine hospital with him, in order "to take some specimens from a suspicious case for cultivation."

The visit was made on the morning of the 18th; the case was that of a boy five years old, in collapse at the time of the visit. Cultivation tubes were inoculated from washings from the bowels, as there were no fæcal discharges available. A visit was again made in the afternoon in order to be present at the necropsy, the child having died at two o'clock. No pathological lesions were presented; the small intestine contained liquid fæces, with which cultivation tubes were inoculated. The necropsy was made five hours after death.

Plate cultivations were made from the tubes as soon as possible, and on the evening of the 19th Dr. Smith was informed that the comma bacillus was present in the specimen, but a positive diagnosis would not be given until the plate cultivations had fully developed. At Dr. Smith's request, two inoculated cultivation tubes were given to him; these, it was subsequently learned, were submitted to Dr. H. M. Biggs, Director of the Carnegie Laboratory, and Dr. T. Mitchell Prudden, Director of the Alumni Laboratory of the College of Physicians and Surgeons, for examination. On the morning of October 20th, typical colonies of comma bacilli had developed on our plate cultivations. On October 22d, at a conference with Dr. Smith, Dr. Biggs, and Dr. Prudden, it was learned that their cultivations had afforded the same results. Consequently the existence of cholera on the steamship Britannia was demonstrated by bacteria investigations.

On October 24th the hospital was again visited on account of the death of a man aged fifty years. He was taken ill, with diarrhœa and vomiting, on the night of the 22d and died on the morning of the 24th. The necropsy was made eleven hours post mortem; no pathological lesions were presented, excepting a slight congestion of the intestines, and the contents of the latter were fluid. Inoculations of cultivation tubes were made, and transferred to the third and fourth dilutions; plate cultivations were made from these, and thirty hours later the characteristic colonies of the comma bacillus were abundant.

On the 25th one of the writers was placed by Dr. Smith in charge of the patients at the quarantine hospital. A woman, aged about twenty-two years, who had been removed from the Britannia on the evening of the 24th, was in the hospital, suffering from an acute attack of cholera. A nursing child, about one year and a half old, occupied the same bed with her. Her case was so characteristic that no cultivations were made from her excreta. Under treatment she recovered, and the child has not been ill up to date.

On the 27th a boy, six years old, died suddenly on the Britannia. His mother stated that he had slight fever and vomiting for three days previous to his death. The necropsy was made twenty-four hours post mortem. No pathological feature presented, excepting an ascaris protruding from the anus, with a mass of ascarides in the cæcum, the small intestines containing white, glairy mucus. It was regretted that no cultivation tubes were at hand, and consequently inoculations were not made. But the case presented the same appearance as those reported above.

On the 28th a child, five months old, died in its mother's arms while being transferred from the vessel. She stated that the child had been ill for several days, but had no diarrhœa. The necropsy was made twenty hours post mortem. No pathological features were apparent. The small intestine contained liquid fæces; the colon, apparently healthy fæcal matter. Inoculations of cultivation tubes were made, and, after being delayed twenty-four hours, specimens were taken therefrom and examined, the cholera bacillus being found in great numbers; in fact, so plenteously, and unmixed with other organisms, that it was not considered necessary to make a plate cultivation.

No cases nor sudden deaths have occurred since that date, and here we rest the case.

The deductions which may be derived from these observations are as follows:

1. That in deaths among emigrants coming from a cholera-infected district, a necropsy is absolutely essential, and cultivation tubes should be inoculated with the contents of the intestine, for the purpose of determining the cause of death.

2. That successful inoculations may be made at least twenty-four hours after death.

3. As the symptoms, in the cases examined, were by no means always well defined, the examinations were confirmatory evidence of the value of bacteria cultivation as a means of positive diagnosis.

November 6, 1887.

The Academy of Medicine and the Board of Health.—Following the reading of Dr. Bryant's paper, an account of which we give in this issue, Dr. Ellsworth Eliot moved the appointment of a conference committee of five, including the president of the Academy, to co-operate with the board of health. The motion was carried.

REPORT OF A CASE OF
TUBERCULAR PHTHISIS TREATED WITH THE PNEUMATIC CABINET.

BY WILLIAM B. WOOD, M.D.

THIS paper does not enter the field in which the pneumatic-cabinet treatment has yielded the most valuable results—which is in the control and cure of the earlier stages of pulmonary affections—but is simply a record of what it is possible to do with the graver forms of established pulmonary diseases, to give relief and comfort, and to at least prolong life; not merely to extend an existence of chronic invalidism, but frequently to prolong life with such improvement of health as enables a patient to resume the regular daily occupations.

On the 23d of April, 1887, a gentleman, about forty years of age, presented himself at my office for examination. He had just returned from a winter in Florida, where he had experienced steady, and for two months rapid, decline. His case proved to be a typical one of tubercular phthisis. Every one of five specimens of sputum examined contained bacilli in very unusual numbers. There were broncho-vesicular respiration in the right lung from the third interspace to the apex; crepitant râles in the clavicular region; moist râles and softening at the apex. There were creaking friction-sounds; the percussion notes were those of thickened and adherent pleuræ, with some consolidation; there were also infra- and supra-clavicular retraction. In the left lung crepitant râles were heard from the clavicle to the apex. The rational symptoms were such as always accompany the foregoing physical signs: restless nights, racking cough, alternate hectic and clammy stages, the septic expression and complexion, shortness of breath, lack of appetite, loss of digestive and assimilative power, with daily expectoration of from eight to ten ounces, and a progressive loss of vitality, weight, and lung.

At this time the patient was unable to accomplish normal respiration with sufficient vigor to meet the natural demands of waste-repair and up-building.

By normal respiration is meant, of course, the act of filling the lungs in inspiration with pure air and deoxygenated blood, and in expiration that of emptying them of deoxygenated air and oxygenated blood, thus supplying red blood to medulla, mesentery, and mucous membranes. As I knew of but one process—the pneumatic differentiation—which could accomplish this, treatment in the cabinet was recommended as a means of temporary amelioration certainly, and possibly of permanent benefit.

The degree of success to be obtained with the pneumatic cabinet depends largely upon the individualization of the various cases and the fine adaptation of its functions to the age, sex, particular disease, and general physical condition of each patient. The personal equation of the operator is also a most important factor. The results to be obtained by the cabinet depend upon the operator's skill. It is a powerful instrument, but so mathematically exact that it may be perfectly controlled, while its several distinct and separate functions make it an instrument of great scope and power of combination; but those who expected the cabinet, *per se*, would work miracles, have been disappointed; its results, like those of a surgeon's knife, indicate the skill, little or much, that manipulated the instrument.

In all pneumatic-cabinet work an antiseptic and bacillicide spray is used. The breathing tube is kept filled with this spray always, in all treatments. The cabinet itself, and all towels, tubes, and other appliances, are, after each treatment and for every patient, disinfected with bichloride solutions.

With the patient referred to the treatments were begun April 24th. They were given daily and were progressive in the degree of rarefaction and pressure used, as well as in duration of time. The increased breathing capacity which is acquired in a single treatment will be retained after leaving the cabinet for from twelve hours to weeks or months, according to the patient's condition. In the present case the duration of the first treatment was three minutes; as the patient's condition improved gradually with each treatment, this was increased, until at the end of three months he could with advantage take from fifteen to twenty minutes.

In the first three treatments forced inspiration[*] was used with a rarefaction of three tenths of an inch to one inch.

To produce forced inspiration, the patient is shut in the cabinet; the pressure of the air about him is reduced by rarefaction, which causes the lungs to expand; he is then allowed to fill his expanded lungs with the denser atmospheric air at equilibrium, supplied to him through the tube from without the cabinet, and saturated with antiseptic spray, the expirations being made into the rarefied air of the cabinet.

Each treatment began with a series of these forced inspirations, included residual air expansion, and was followed by another series of forced inspirations combined with forcible expirations—that is, the patient, after having filled his expanded lungs with the current of air inflowing through the tube, breathes out against the force of this current. This act condenses a certain amount of the bacillicide spray within the lungs. The power to make a forcible expiration against an opposing current can be cultivated only gradually, and must be carefully proportioned to the patient's strength.

In one week this patient could without fatigue take this inspiratory differentiation for five minutes under a rarefaction of four tenths of an inch. By the end of the second week he could walk one mile, eat beefsteak, and sleep without the disturbance of cough and sweats.

During the third week the patient was able at the close of each treatment to take for one minute full pneumatic differentiation, which is to breathe in under rarefaction and out under pressure, and thus to receive re-enforcement of power in both inspiration and expiration. This compound act is the test of circulatory and pulmonary capacity. It should at first be used with but two tenths differentiation each way, and only for one or two minutes a treatment. When a patient has acquired lung power enough to take full pneumatic differentiation without fatigue, for from one to three minutes under re-enforcement of six tenths to nine tenths of an inch each way, he soon breathes normally without this assistance.

The patient could now in the third week sleep without waking eight hours a night, walk two or three miles a day, and eat and digest well, showed red blood in the tips of his ears, and expectorated only three to four ounces instead of eight to ten.

At the fourth week the man began to gain in weight, and gained a pound a day for seven days.

At the beginning of the second month the lung gave vesicular respiration without râles or friction sounds up to the supraclavicular space; the infra- and supra-clavicular areas were fuller. After treatment, the broncho-vesicular breathing was confined to the very apex; before treatment it would extend down almost to the clavicle. All crepitant râles had now disappeared from the left lung.

From June 27th to July 5th no treatments were given. The patient "missed the cabinet badly." When treatments were re-commenced, it was at an altitude of 1,800 feet above the sea. Here an item of importance developed itself. I found that the patient needed to be acclimated to the diminished atmospheric pressure under which he then was; that, although his condition was as good as in previous treatments, three weeks were needed before he could safely bear the same pressure and the same length of treatment which, in New York, had caused no inconvenience.

I think clinical observation will show this to be the rule and not an exception, and that any patient going from sea level to any considerable altitude, whether he has or has not had cabinet treatment before the change, must be managed with great care, and that it will be some weeks before he can obtain progressive benefit from the cabinet.[*]

The treatments at an altitude were given daily until September 1st, and then discontinued until October 15th. The slight inconvenience experienced by the patient during this intermission, as compared with the serious discomfort caused by the shorter intermission in June, is evidence that something more than temporary amelioration can be effected by cabinet treatment in even graver forms of established pulmonary diseases. Examination revealed more accurately the degree of permanent gain.

The patient showed an increase in weight of six pounds, slept *all night* without waking, and expectorated on an average only half an ounce daily. The whole upper right lung gave softer and stronger respiratory murmur, the broncho-vesicular element was confined to the apex, and the evidence of softening had disappeared.

In the left lung no signs of disease remained.

There has been no abnormal temperature, chill, or night-sweats since June.

Of a large number of specimens of sputum examined, about one half showed no bacilli; the others contained occasional bacilli scattered at intervals. But there is now not one where there were a thousand in the April specimens.

The patient is now, November 1st, walking from three to eight miles a day.

17 East Thirty-eighth Street, *November 1, 1887.*

THE DIAGNOSTIC VALUE OF THE CHOLERA SPIRILLUM,

AS ILLUSTRATED BY THE INVESTIGATION OF A CASE AT THE NEW YORK QUARANTINE STATION.[†]

By HERMANN M. BIGGS, M. D.

The appearance and continued occurrence of cases of Asiatic cholera at Quarantine in New York Harbor lend a new interest to the investigations made during the last few years by various German and French observers, and notably Koch, regarding the cholera spirillum and its diagnostic value in this disease. The question of the differential diagnosis of sporadic and Asiatic cholera is an exceedingly important one, and I wish to draw attention by an example in point to the very great value to be attached to the bacteriological examination of the dejecta in doubtful cases of the latter disease.

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[*] Dr. H. F. Williams, "Jour. of the Amer. Med. Assoc.," May 7, 1887.

[*] Dr. Alfred L. Loomis, "N. Y. Med. Journal," June 12, 1886.

[†] Read before the Society of Bellevue Hospital Alumni, November 2, 1887.

That there is at least a possibility of the introduction of Asiatic cholera into this country, either during the present autumn or with the appearance of warm weather, is rendered certain by the existence of these cases at our very doors. As is well known, the clinical manifestations are so nearly alike in cases of sporadic and those of Asiatic cholera that the first cases in an epidemic of the latter disease are always doubtful cases, and an absolute diagnosis can often only be made in the actual presence of an epidemic. The vital importance of the early recognition of the first cases, that the extension of the disease may be prevented, needs only mention to be fully appreciated. There is afforded to us in the careful bacteriological examination of the dejecta of cholera patients an absolutely reliable means, and the only reliable means of making a positive differential diagnosis between this and other forms of intestinal disease. The following case illustrates this fact very forcibly:

The steamer Britannia, from Marseilles and Naples, arrived at Quarantine on October 14th, with 408 steerage passengers on board, and reported three deaths during the voyage. The clinical diagnoses made in these cases by the ship's surgeon, as kindly given to me by the health officer, were respectively eclampsia, tubercular enteritis, and perforation of the intestines by lumbricoid worms. No autopsies were performed. The earlier arrival of the Alesia from the same ports with cholera on board, the apparent incompetency of the surgeon as shown by the diagnoses in the last cases mentioned, and the possible perversion of facts in the interest of the steamship company, aroused the suspicion of the health officer as to the correctness of the diagnosis in these cases. On the day of her arrival a man was removed from the steamer, and died the following morning. At the request of Dr. Smith, I was present at the autopsy in this case, and the cause of death was found to be an extensive lobar pneumonia, involving a large portion of the right lung. The intestines contained formed fæcal matter.

On the following day, October 16th, a boy six years of age was removed from the ship suffering with an affection resembling cholera morbus. The characteristic symptoms of Asiatic cholera were not all present in this case, and, in view of the insufficient evidence of the occurrence of any cases of this disease among the passengers since the date of sailing, considerable doubt was entertained as to the nature of the disease. On the 18th the boy died. It was a matter of the gravest importance that an absolute decision should be arrived at as to the nature of the disease in this case. The autopsy did not reveal anything that assisted in deciding the question. Dr. Armstrong, of the Marine Hospital, Stapleton, Staten Island, was present at the autopsy, and inoculated gelatin cultivation-tubes from the contents of the ileum and the colon, respectively. On the following day transfers were made to other tubes by Dr. Kinyoun, of the hospital, from the growth that had taken place in the tubes first inoculated, and the specimens of this second series were brought to the writer by the health officer on the following day, October 20th, with the request that they be examined. On microscopical examination, bacteria were found that in their morphological characteristics corresponded closely to those of the cholera spirillum. The writer then requested that two days be allowed for the preparation, growth, and examination of plate cultivations, as the morphological appearances are not characteristic enough to serve as a basis for diagnosis. Cultivations were furnished to Dr. Prudden, and independent examinations were made by him, Dr. Kinyoun, Dr. Weeks, and the writer, with exactly the same result—*i. e.*, the discovery and the isolation of an organism corresponding in all its morphological and biological characteristics to the so-called cholera comma bacillus. The case was, therefore, without hesitation declared to be Asiatic cholera, and was so reported to Dr. Smith. The occurrence of other cases subsequently added a confirmation, which, however, was not necessary for the establishment of the diagnosis.

The morphological and biological characteristics of the cholera spirillum, taken together, distinguish it sharply from all other known forms of micro-organisms, and its presence in the dejecta is absolutely pathognomonic of Asiatic cholera. I have given the history of this case somewhat in detail because it was one where an immediate absolute diagnosis was of the greatest importance, and where it could only be arrived at by the biological examination. The alternative was to await the appearance of other cases, and thus incur the danger of sacrificing many lives. The latter method was formerly the only one at our command. This is also, I believe, the first case in this country where a diagnosis of Asiatic cholera has been based upon biological examinations. It has seemed to Dr. Prudden and myself that too much emphasis could not be placed upon the importance and positive value of this kind of examination for the diagnosis of doubtful cases of this disease.

58 East Twenty-fifth Street, *November 2, 1887.*

Measles Paralysis.—The "Lancet" says: "Although Landouzy, in his excellent work on the 'Paralysis of Acute Diseases,' asserts that, without being exceptional, paralyses are less frequent with measles than with variola, yet it may be questioned whether measles does not distinguish itself, rather more frequently than is generally supposed, as the efficient cause, in certain cases, of obscure nerve disease among children. There are grounds also for believing that disseminated sclerosis may find a cause in measles. M. Négrié, of Bordeaux, has observed a case of acute ascending paralysis consecutive to measles, and he has published the clinical aspect of the case in the Bordeaux 'Journal de Médecine,' No. 3 (August 21, 1887). The child was three years old, and on the tenth day of full convalescence after measles considerable weakness was first discovered in the upper and lower limbs and in the neck-muscles. . . . The paralysis increased in degree, so that sitting was impossible; the knee-jerks disappeared, and the plantar reflexes appeared to be diminished. . . . Paralysis of respiration seemed to be the principal cause of death, which took place five days after the *début* of the paralytic symptoms. . . ."

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NEW YORK, SATURDAY, NOVEMBER 12, 1887.

HOW NEW YORK PHYSICIANS CAN AID THE BOARD OF HEALTH.

At the last meeting of the Academy of Medicine, Dr. Joseph D. Bryant, the new commissioner of the board of health, read a paper in which, after comparing the board's past methods with those it had recently settled upon, he particularized certain important points in regard to which the co-operation of individual physicians was likely to be of great service. Special attention was called to the Willard Parker Hospital, at the foot of East Sixteenth Street, at present devoted to the reception and care of patients with diphtheria and scarlet fever. Physicians ought to visit the hospital from time to time, in order that they might personally assure their patients, on the strength of their own observation, that within its walls those who were received for treatment had the advantages of skilled medical attendants and a kindly and efficient service.

Another matter in which the profession ought to co-operate more generally with the board was that of making returns of births and of cases of infectious disease. It was now estimated that from twenty-five to thirty per cent. of the births were not registered, and that from fifteen to twenty-five per cent. of the cases of infectious disease were not reported. In regard to this point, it was significantly stated by Dr. Janeway, a former commissioner, in the discussion on Dr. Bryant's paper, that there were well-known physicians in town who, after having themselves persistently neglected to report their cases, had been so unfair as to reproach the board for the inadequacy of its records when they had subsequently had occasion to resort to them for statistical purposes. Especially ought all cases of infectious disease to be reported promptly when it was apparent that the means of isolation at the patient's home were insufficient.

It was the board's determination, said Dr. Bryant—and in this he was seconded by the president of the board, Mr. Bayliss, who was present by invitation—that its officials should always co-operate loyally with medical men in charge of private patients. The board was not disposed to act in a dictatorial or autocratic manner; it recognized that its most legitimate sphere was in teaching the people and persuading rather than even seeming to force them to avail themselves of its appliances for the prevention of outbreaks of infectious disease.

Under any circumstances, it would be discreditable to the physicians of New York if they allowed Dr. Bryant's most reasonable suggestions to go unheeded, but doubly so in the face of the excellent understanding which he was able to report as now existing between the board and the plumbers. Although they had been somewhat unmanageable in the past, the plumbers were now, said Dr. Bryant, as the result of recent conferences, willing to go to the utmost extent desired by the board. We have mentioned only the main points in Dr. Bryant's admirable discourse; if they are properly taken to heart, co-operation in the minor matters he spoke of, such as the reporting of nuisances injurious to the public health, and of damaged or adulterated products put upon the market as articles of food or drink, follows as a matter of course.

THE AIR OF SEWERS.

It has been a matter of knowledge for some years, certainly since Letheby's report on the subject, in 1858, that the air of sewers ("sewer gas") is not of itself usually deleterious—*i. e.*, that no poisonous gas is ordinarily contained in sewers in sufficient amount to injure the health of any person who inhales it. Scavengers and men who work in sewers are generally healthy and long lived, plumbers seldom die of zymotic disease, unless pneumonia can be classed as such, and sewer rats grow gray in their subterranean quarters. Sanitary officials can recall many instances in their experience where constant exposure to the air escaping from untrapped sinks and basins has been followed by no bad consequences. On the other hand, many cases of sickness have been recorded in which the evidence seemed to prove indisputably that they were caused by just such exposure, and so much has been said about them that sewer air is now the great sanitary bugbear. How are these apparent discrepancies to be accounted for?

It is easy to say that sewer air is dangerous only when it contains the germs of specific diseases, but it has seemed in many instances to be the sole cause of persistent sore throats, headaches, and diarrhœal troubles without the development of any well-defined disease. In a remarkable case recently reported by Dr. Playfair, in the "Lancet," serious symptoms were developed in a puerperal woman which were undoubtedly due to exposure to foul air from the house-drains, all attendant circumstances having been carefully analyzed in such a manner as to render that conclusion irresistible. It is easy to say that sewer men and plumbers acquire immunity by exposure. but, if that is the case, why should not the tenants of a house with defective pipes acquire a similar immunity? It must be confessed that most, if not all, the cases of disease believed to be caused by sewer air are contracted in houses and not outside of them. The houses are often entirely disconnected from the street-sewer, in England by interposing a small cess-pool in the front area, and in this country by the house-trap. Any sickness due to defective pipes and drains, therefore, is caused by poisons developed in the house itself.

In a recent paper on "The Air of Sewers," by Professor Thomas Carnelly and J. S. Haldane, M. B. ("Proceedings of the Royal Society"), it is shown that sewer air is comparatively free from noxious gases, and contains proportionately fewer micro-organisms than the outer air of the same locality. The authors' experiments were made in large sewers (large enough for a man to enter) through which the air was constantly circulating by means of ventilating manholes and open grids at the street corners. Under the circumstances it is not surprising that they should have satisfied themselves that most of the micro-organisms found were not developed in the sewer itself, but were drawn in from the outer air. They also have shown that all such organisms tend to settle instead of remaining suspended in the air. The most valuable of their experiments, however, are those which show the invariable effect of splashing or the bursting of bubbles in sewage to be a considerable increase in the number of micro-organisms in the air, confirming the results of earlier experiments.

It has been noticed that illness traced to defective drainage is more frequent in houses where there are holes in the pipes, open joints, or unused fixtures, than where there is simply an absence of traps under fixtures in constant use. Holes in vertical or branch pipes, and open joints, will often be found covered about the edge with slime deposited from fluids that have spurted slightly through the holes during their passage. The outer border of this deposit is often dry and crumbling, and from that point to the edge of the opening will be found all degrees of moisture. May not such deposits around holes and lining dry unused pipes be the real breeding places of the micro-organisms believed to be productive of so much sickness in houses, every outward current of air passing into the room being loaded with them? The dangerous qualities of sewer air may be due to gaseous ptomaines, as suggested by these gentlemen, though their experiments to determine this were unsatisfactory, for reasons stated by them.

It is not to be forgotten that the micro-organisms of sewer air may produce an effect not by absorption through the lungs, but by ingestion with the food or drink, or in swallowed saliva or phlegm from the throat. Indeed, it is probable that typhoid fever is almost always induced in this way. The apparent immunity of sewer men, scavengers, and plumbers may be due to tobacco-chewing, and the ejection of the buccal fluids instead of their deglutition. It is evident that this interesting subject still presents a wide field for investigation.

MINOR PARAGRAPHS.

THE FARNAM MEMORIAL IN NEW HAVEN.

It is announced that an anatomical amphitheatre, a building fifty feet square, is shortly to be built on the grounds of one of the hospitals of New Haven, Connecticut, by the mother of the late Dr. Farnam. During his life-time, Dr. Farnam was most earnest and efficient in his efforts to improve the facilities possessed by New Haven for caring for the sick and injured who could not be adequately attended to at their own homes, and this proposed building will be a most fitting memorial of his beneficence.

THE GLEDITSCHINE QUESTION.

It will be seen by an article which we quote from the "Medical Record" elsewhere in this issue that steps are to be taken to enable Mr. Goodman and Dr. Seward to prove their allegation of the existence of this alkaloid. It will also be seen that the editor of this journal objects to one of the conditions mentioned. We are glad to be able to announce now that both Dr. Claiborne and the editor of the "Medical Record" agree with us that the condition objected to should not be imposed. We learn, too, that other points have been made the subject of comment, and that the criticism called forth will be duly taken into consideration. It is to be hoped that Mr. Goodman and Dr. Seward will see the propriety of their submitting to conditions that can not be complained of.

A DEFECT IN OUR QUARANTINE.

The secretary of the Michigan State Board of Health, Dr. Henry B. Baker, has issued a circular in which he calls attention to a suggestion made by Dr. Smith, the health officer of this port, in connection with the fact that certain passengers who arrived on the steamship "Ohio," on the 30th of September, carried scarlet fever to Sutton's Bay, Michigan. Dr. Smith's statement was that he would be glad if the law allowed persons who had been exposed to the ordinary infectious diseases to be held for observation, as was the case with those exposed to the infection of small-pox. Dr. Baker thinks it is time that the whole subject of quarantine was investigated by the States and by the General Government, with a view to protecting our population from the importation of the really dangerous diseases.

MEDICINE IN CHINA.

Of late there have been increasing indications of the growth of rational medicine among the Chinese, and it is in great measure, as we have before remarked, to the medical missionary establishments that this is to be credited. At the last meeting of the New York Academy of Medicine, Dr. H. W. Boone, professor of surgery at Shanghai, pointed out the need for more medical instruction of the Chinese. Shanghai, he said, was the chief port of China, as New York was of the United States, and should be made a center of medical teaching. The need of educated physicians there was evident from the fact that the mortality of childbirth was eight per cent., and from the very great mortality from urethral stricture, hernia, vesical calculus, etc. Young men were needed as teachers at the college in Shanghai, together with books and museum specimens. The speaker stated that contributions could be sent to him at room No. 22, Bible House, New York.

SIR WILLIAM GULL.

We regret to observe, by a paragraph in the "Lancet," that this distinguished London physician has been stricken with hemiplegia. He was seized in the street, and required to be assisted to his home, but it is stated that at the time of the seizure his intelligence was not appreciably impaired. The prospect seemed to be that he might soon sit up with safety. He was suffering from hæmaturia at the time of the attack, and a few months before he had hæmoptysis and subsequently profuse epistaxis. Notwithstanding the serious import of this succession of events, we earnestly hope that the sufferer's life may long be spared to the profession and to the world.

A NEW JOURNAL OF PSYCHOLOGY.

A fresh manifestation of the renewed impetus given to scientific work in this country by the excellent organization of the Johns Hopkins University is afforded by the issue of the first number of the "American Journal of Psychology," edited by G. Stanley Hall, the professor of psychology and pedagogics in the university, and published in Baltimore. The new periodical is very handsome, and the matter contained in the first number is exceedingly valuable.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 8, 1887:

DISEASES.	Week ending Nov. 1.		Week ending Nov. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	31	8	22	3
Scarlet fever	64	12	80	9
Cerebro-spinal meningitis	6	6	2	2
Measles	30	3	44	1
Diphtheria	131	49	145	38
Small-pox	1	1	3	0

The Health of Boston.—During the week ending Saturday, November 5th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 25 cases and 9 deaths; scarlet fever, 78 cases and 8 deaths; typhoid fever, 14 cases and 6 deaths; measles, 6 cases. There were also 31 deaths from consumption, 16 from pneumonia, 16 from heart disease, 11 from bronchitis, and 6 from marasmus. The total number of deaths was 198, against 180 in the corresponding week last year.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 30, to November 5, 1887:*

Byrne, Charles B., Captain and Assistant Surgeon. Ordered for temporary duty at Fort McHenry, Maryland. S. O. 231, Division of the Atlantic, October 28, 1887.

Munn, Curtis E., Captain and Assistant Surgeon. Relieved from duty at Fort Canby, Washington Territory, and ordered for duty as Post Surgeon at Fort Klamath, Oregon. S. O. 251, A. G. O., October 28, 1887.

Adair, G. W., Captain and Assistant Surgeon. The leave of absence for seven days granted on the 27th inst. by the commanding officer, Fort Brady, Michigan, is extended twenty-three days. S. O. 231, Division of the Atlantic, October 28, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the three weeks ending November 5, 1887:*

Beyer, H. G., Passed Assistant Surgeon. Ordered to hold himself in readiness for orders to the Trenton.

White, S. S., Assistant Surgeon. Ordered to hold himself in readiness for orders to the Trenton.

Stephenson, F. B., Passed Assistant Surgeon. Detached from the Bache and ordered to the Navy Yard, Boston.

Stone, E. P., Assistant Surgeon. Detached from the New Hampshire and ordered to the Bache.

Street, T. H., Surgeon. Detached from the Patterson and placed on waiting orders.

Bates, N. L., Medical Inspector. Ordered to hold himself in readiness for orders to the Trenton.

Hesler, F. A., Assistant Surgeon. Ordered to examination for promotion.

Fitzsimmons, P., Surgeon. Ordered to the U. S. Steamer Marion.

Atlee, L. W., Assistant Surgeon. Ordered to the U. S. Steamer Marion.

Bates, N. L., Medical Inspector. Ordered to the U. S. Steamer Trenton.

Beyer, Henry G., Passed Assistant Surgeon. Ordered to the U. S. Steamer Trenton.

White, Stephen S., Assistant Surgeon. Ordered to the U. S. Steamer Trenton.

Rixey, P. M., Passed Assistant Surgeon. Detached from the U. S. Steamer Trenton and to wait orders.

Ashbridge, Richard, Passed Assistant Surgeon. Ordered to the U. S. Receiving-ship St. Louis.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending November 5, 1887:*

Fessenden, C. S. D., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue-Marine Service. November 1, 1887.

Mead, F. W., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of officers of the Revenue-Marine Service. November 1, 1887.

Bevan, A. D., Passed Assistant Surgeon. Relieved from duty at Portland, Oregon; ordered to Marine Hospital, New York. November 2, 1887.

Carrington, P. M., Assistant Surgeon. Relieved from duty on Revenue Steamer Rush; ordered to Marine Hospital, San Francisco, Cal. November 2, 1887.

Perry, T. B., Assistant Surgeon. Relieved from duty at Marine Hospital, San Francisco, Cal.; ordered to assume charge of service at Portland, Oregon. November 2, 1887.

Goodwin, H. T., Assistant Surgeon. Relieved from duty at Norfolk, Va.; ordered to Marine Hospital, New Orleans, La. November 5, 1887.

Society Meetings for the Coming Week:

Monday, *November 14th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club (annual); Norwalk, Conn., Medical Society (private).

Tuesday, *November 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; New York State Medical Association, Fifth District Branch (special—New Brighton, Richmond Co.); Ogdensburg, N. Y., Medical Association.

Wednesday, *November 16th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *November 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *November 18th:* Chicago Gynæcological Society.

Saturday, *November 19th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Moses Gunn, M. D., of Chicago, died on Friday, the 4th inst., in the sixty-sixth year of his age. The deceased was born in East Bloomfield, N. Y., and was graduated from Geneva Medical College in 1846. He commenced practice in Ann Arbor, Mich., and, after lecturing on anatomy for three years in the medical department of the State University, he was appointed over several competitors to the chair of anatomy and surgery, which position he held for three years. At the end of that time he was relieved from his anatomical teaching, and for about fifteen years occupied the chair of surgery. In 1867 he was appointed professor of surgery in Rush Medical College, Chicago, which position he held at the time of his death. He was a member of the Illinois State Medical Society, of the Chicago Medical Society, and of the American Medical Association. For a number of years he was surgeon to the Cook County and St. Joseph's Hospitals.

William Selden, M. D., of Norfolk, Va., died suddenly on the 7th inst. at the age of seventy-nine. The deceased was a native of Norfolk, received his literary education in the University of Virginia, and took his medical degree from the medical department of the University of Pennsylvania in 1830. He was a member of the Virginia State Medical Society, and of the Medical Society of Norfolk.

George Arthur, M. D., Passed Assistant Surgeon in the United States Navy, was killed on the 1st inst. on the Norfolk and Western Railroad, while on his way to Shelbyville, Tenn. He was appointed to the navy from Maryland in 1877 and had for some time been on duty at the Museum of Hygiene in Washington.

John Murray Carnochan, M. D., died on Friday, October 28th, at the age of sixty years, of apoplexy. The deceased was a surgeon of exceptional skill as an operator, and he had contributed a number of notable papers to medical journals. At the time of his death, an extensive work reflecting his own experience was in course of preparation, and a portion of it had been published. Dr. Carnochan was for many years the surgeon-in-chief of the New York State Immigrant Hospital, and he served a term as health officer of the port.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 26, 1887.

The President, Dr. Charles McBurney, in the Chair.

Exsection of the Elbow for Tuberculous Disease.—Dr. A. G. Gerster presented a patient with the following history: Rudolph B., aged twelve, was admitted into the German Hospital having tuberculous osteitis of the right olecranon, with two large abscesses and a fistulous opening leading into the joint. On March 30th a partial exsection of the elbow was performed, and a sequestrum was removed from the olecranon, a shell of bone being preserved, to which was attached the triceps tendon. No drainage-tubes were inserted, but the joint was closed and put up in the semi-flexed position. On April 12th the dressings were removed, primary union having occurred. The elbow was then put up at a right angle, and passive motion was employed every three or four days, in spite of the fact that it caused some pain and swelling. During one of the exercises the cicatrix was ruptured, and bloody serum exuded; after that there was a persistent sero-purulent discharge. Subsequently exuberant granulations appeared about the fistula, so that it was necessary to scrape it out two or three times. On June 10th complete excision was performed, as ankylosis seemed to be inevitable. The soft parts showed gelatinous infiltration, especially around the head of the radius, while there was a cheesy focus between the ulna and radius. About one inch of the humerus, radius, and ulna were removed, and the joint was put up in a semi-flexed position, the dressings being left undisturbed for five weeks, when they were removed, and *active* movements were made. The boy had begun to use his joint almost from the first, and had continued to improve ever since: it had not been necessary to use the ordinary apparatus with lateral hinges. There was now considerable mobility, flexion and extension being normal, while pronation and supination were fair, and would improve.

The speaker stated that he had reported the case in order to call attention to the fact that a good result might be obtained by a secondary operation after partial excision had proved to be unsatisfactory.

Dr. H. B. Sands thought that the result was quite good, since the arm could be flexed and extended very well in one plane. He assumed that no one questioned the advisability of performing the partial operation only when it would be likely to effect the desired result. He had presented a patient to the society a year before in whose case he had removed a portion of the ulna and condyles, there being a cheesy focus limited to one condyle. There was better motion subsequently than after complete excision. He no longer performed the complete operation when the partial one was sufficient. He had sometimes removed the synovial membrane alone, leaving the healthy cartilage. This practice was the reverse of the old rule, which prescribed complete excision in every case. The advantages of partial excision were conspicuous when operating for tuberculous disease of the knee in young subjects, as in many cases the parts affected could be thoroughly removed without serious disturbance of the epiphyseal cartilages, the destruction of which would interfere with the growth of the limb.

Dr. Gerster said that he desired to lay particular stress upon the fact that passive motion had been entirely withheld, and active movements not begun until the swelling had subsided. The old teaching was to commence "early" movements after the operation; but this meant in from six to eight weeks, because formerly there used to be abscesses around the joint, so that manipulation had to be delayed. He believed that he had often begun to make movements too soon, as a result of which he had caused rupture of the connective tissue and effusion, thus retarding the healing. It was better to wait until the swelling had entirely subsided, and then to try active movements only.

Dr. R. F. Weir thought that the tuberculous deposit was more commonly found in the ends of the bones, when partial exsection was more likely to be successful. Moreover, when the disease was confined to the synovial membrane and capsule it might be sufficient to remove this alone, although the results of this operation, the arthrectomy of Volkmann, had not been very satisfactory in other surgeons' hands. But when the bone and the capsule were both affected, complete excision should be performed at once.

Dr. L. A. Stimson said that he had excised the capsule five or six times for disease which was apparently limited to it, and in three cases he had been obliged to perform complete excision subsequently. The subject had been discussed at a meeting of the society a year before, and at that time other members had reported similar results. He thought that pronation and supination would always be imperfect in the case of the patient shown, for they were then effected by rotation of the ulna upon the humerus.

Removal of a Tumor (?) from the Brain.—Dr. T. M. Markoe presented a patient and read the following report:

Sidney McL., aged twenty-five, England, gives the following history: In the year 1879 he fell from a height of about eight feet, striking on his head. He was stunned by the blow, and remained unconscious for a certain time. Brain fever followed, from which he gradually recovered, until about two months from the time of the accident, when he had his first convulsion. Convulsions now recurred at irregular intervals for about two years, sometimes becoming as frequent as three or four in a night. These attacks gradually became less frequent, and at the end of two years ceased altogether. He had then regained good health, and was able to attend to his daily duties as a clerk. There was no renewal of the epileptic seizures until about a month before his admission to the hospital, January 15, 1887. At that time, while taking a bath, he accidentally struck his head, receiving rather a severe blow. No marked effects followed the blow, but within a week after, a convulsion occurred, which was repeated at intervals more or less short, until they became as frequent as four during the night.

On admission, he was anæmic and thin, but nervous and excitable, and quite intelligent. He had perfect possession of all his faculties, both mental and physical, and had at no time had any symptoms which could be referred to a cerebral lesion, except pain and the convulsions above mentioned. The head was irregular in shape, the frontal region prominent, the right parietal region bulging markedly, while the corresponding region on the left side was as markedly depressed. In the center of this flattened area was a marked depression over a space as large as a half-dollar. He had continual dull pain referred to the depressed spot. He had lately suffered a good deal of pain in the head, which had almost always been referred to or had radiated from this same point, though at times the pains had been felt on the right side. He was ordered to keep his bed, to be put upon light diet, and to have bromide of sodium, gr. 30, three times a day. On the third day after his admission he had his first convulsion, which was followed by two more before morning. There was no aura, there was no cry, nor did the muscular spasm begin at any single point. The spasm took the form of opisthotonus, alternating with extreme flexion, and followed by sleep.

January 21st.—No convulsions till last night, when he had five.

25th.—Number of fits increasing. Bromide increased, and ordered six leeches in region of pain. Violent, almost maniacal, excitement followed some of the convulsions. No diminution in the number of the fits. An operation was determined on, and was performed January 27th.

The point of operation selected was the center of the depressed portion of the left parietal bone, which corresponded quite accurately with the region of greatest pain, and which was on a level with and about an inch and a quarter in front of the left parietal boss. The operation was done after Victor Horsley's method, with a semicircular flap of the scalp, and a large trephine, an inch and a quarter in diameter. On removing the disc of bone, the dura mater did not bulge, but nevertheless presented a decided sense of fluctuation. Between the dura mater and the brain a firm, hard surface was felt, which the finger reached after pressing through perhaps two lines of fluid. The dura mater was now opened by a semicircular incision one line within the edge of the saw-cut. When it was turned back, a surface was exposed of a bluish-white color, as if it were the surface of a thin, semi-transparent sac containing fluid. The sac, being opened, gave issue to some thin, pellucid fluid, in quantity at least a drachm, and revealed the contents to be two unequal bodies, of a rounded shape, lying close together, forming a mass about an inch in diameter, as looked at from above. These masses did not present the appearance of the normal cortex, but were more grayish in color, and of a distinctly granular appearance, and to the touch they were firmer than the normal surface of the brain. Without the use of any force, the handle of the scalpel passed easily around the mass, and turned it out of the areolar bed in which it had lain. This removal showed the walls of the cyst to be continuous around the periphery of the tumor, and that the whole had been buried deep in the cerebral substance, pressing it down more than half an inch. As I turned the mass out of its bed I was not aware that I had divided any portion of cerebral matter, but, on studying the cyst-wall after the mass had been removed, I saw a portion of exposed cerebral matter at the anterior margin of the opening, and, although I examined it with care, I could not decide whether this was a point at which the tumor had been continuous with the convolution, or whether it was merely the surface of the convolution accidentally bared. This spot of exposed brain-matter was about two lines in diameter. No hæmorrhage took place during or after the enucleation.

The dura mater was brought together with two or three catgut sutures, and the scalp flap was accurately approximated in the same way. Light antiseptic dressings were applied, and two or three threads of large-sized catgut were left in the wound for drainage. Moderate reaction followed the operation. Some mental excitement, with amnesic aphasia, was noticed during several days after the operation, with some paresis of the right arm. These symptoms, however, never reached a serious degree, and subsided during the second week entirely. The wound healed *per primam*, and he was discharged well on the 19th of February, no convulsions having occurred since the operation, twenty-three days previous. The following is Dr. Prudden's account of his examination of the mass submitted to him:

"The small fragment of brain-tissue which was sent to the laboratory was ellipsoid in shape, measuring about 1½ by 1 ctm. It consisted of white and gray brain-matter, normally arranged. The ganglion cells, lying, as usual, in layers, are nearly all considerably swollen and prominent. The intercellular substance is somewhat cracked and fissured, which might be due to the hardening in alcohol. The most marked departure in structure from the normal is an accumulation of small spheroidal cells in the lymph-spaces around the ganglion cells. Sometimes as many as six or seven of these small cells lie crowded around the ganglion cells. This accumulation of cells in the lymph-spaces has been described as occurring under a variety of conditions. The appearances are figured in Virchow's 'Archiv,' Bd. 69, in connection with an article by Herzog Carl von Bayern on the 'Condition of the Cortex in Abdominal Typhus.'

"The microscopical appearances do not throw much light on the peculiar conditions which you found at the operation, and I am entirely at a loss to account for them, except on the hypothesis of an aberrant fragment of brain-tissue, which had developed at the seat of operation. T. Mitchell Prudden."

October 26, 1887.—From the time of his discharge from the hospital up to the present moment his health has been perfectly good. There has been no abnormal sensation about the seat of the wound, and no pain in the head. The only exception to be made from this statement is an attack of pain, rather severe, intermittent in character, and seated in the region of operation. He himself is disposed to consider the attack as the result of unusual devotion to work, he having undertaken to acquire the art of shorthand writing, and having given every evening to that study. The attack lasted only three days, and then entirely subsided. This seizure came on rather suddenly, about the first week in October. His habits have been perfectly correct in all respects, and, with the exception mentioned above, he has been able to attend regularly to his duties.

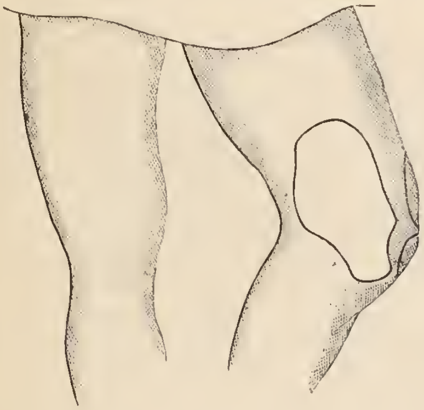
This case is of some interest as throwing light confirmatory of the views now entertained with regard to cerebral localization. The tumor, while undisturbed, gave no indication as to its locality. After its removal, however, the slight inflammatory action set up in its areolar bed was sufficient to produce aphasia and right-arm paresis. The position of the tumor corresponds very nearly with the centers for the arm and for speech.

Nephrectomy by Laparotomy for Adenoma of the Kidney; Recovery with Ventral Hernia.—Dr. Weir presented a patient from whom he had removed a tumor of the kidney as large as the two fists and weighing twenty-one ounces. The tumor had been shown to the society last January, and the history of the case had been then related in detail. The prognosis given by Dr. Peabody, after a microscopical examination of the specimen, had not been favorable, since he had been inclined to look upon the growth as having a strongly malignant tendency.

Nevertheless, the patient was in good health, having gained forty pounds in weight, and was able to pursue his laborious occupation as a butcher, being only troubled by a hernial protrusion at the site of the incision; this was supported by a bandage. The incision had been made at the outer edge of the rectus, according to Langenbuch's method, and in closing it the transversalis fascia had been sutured separately, as also were the muscles, in order to counteract the tendency to hernia that abdominal incisions often give rise to. After the removal of the tumor the cut edges of the peritonæum originally covering the kidney had been brought together over the stump, and an opening had been made posteriorly for drainage. Although there had been considerable hæmorrhage during the operation, the spouting vessels had been readily secured with compression-forceps through the anterior incision, which could have been done only with great difficulty through a lumbar incision. Dr. Wylie and other surgeons had suggested the advisability of performing a secondary operation for the cure of ventral hernia after laparotomy, the peritoneal cavity being opened and the peritonæum and transversalis fascia being sutured separately.

Dr. J. A. Wyeth said that he had been called to assist Dr. Wylie in an operation for the cure of ventral hernia following laparotomy, in which a good result had been obtained. The peritonæum had been united separately and a series of deep sutures had been carefully passed through the muscle and fascia. The speaker had adopted this method of closing the wound after laparotomy, and believed that he had in this way prevented the subsequent formation of hernia.

Osteoplaques of the Thigh.—Dr. R. Abbe presented a patient, sixty years of age, showing two large bony plates above the left knee, occupying the site of the lower halves of the vastus externus and vastus internus muscles. The internal one measured six and a half by four inches, and had an estimated thickness of an inch. They were freely movable. They represented the amalgamation of numerous bony nodules in the muscle, observed as long as forty years ago. They had been watched by him for three years, and had changed but little. The flexing of the knee was partially restricted, and at long intervals the joint became painful and a little swollen when overtaxed.



Dr. Weir stated that he had seen the patient in 1884, and learned from him at that time that he had first noticed a number of small, hard nodules, which subsequently coalesced.

Dr. Stimson believed that the bony mass on the outer side had developed in the lateral ligament of the patella, and that its inner surface was in contact with the interior of the joint, as evidenced by crepitus on manipulation. On the opposite side the upper portion of the osteoplaque was evidently imbedded in the muscle, while the lower portion appeared to occupy the capsule of the joint.

Dr. Weir said that he had seen a case in Schede's wards, in Hamburg, in which the nodules were confined to the muscles of the back and upper extremity. The pathology of the affection was obscure, only one autopsy having been made. *Myositis ossificans* (of which there were only about twelve or fifteen recorded cases) usually began in early life, and might follow inflammatory processes. It was sometimes thought to be of nervous origin, though the autopsy alluded to showed no nerve lesion. It was noted that in these cases the earthy phosphates in the urine were usually much diminished.

Dr. C. K. Briddon said that he recalled the case of a patient who had been presented at the Pathological Society several years before. He was a boy ten or twelve years of age. The osseous plates were confined to the trapezius muscles, and were unquestionably intra-muscular.

Empyema following Stab-wound of the Pleura; Recovery after Exsection of Portion of a Rib.—Dr. Wyeth presented a patient whose history was as follows: A young man, aged thirty-five, had been stabbed four or five times in the left side three years ago; the lung had been said to have been wounded. Considerable hæmorrhage into the pleural cavity had occurred, and a quantity of blood and serum had been removed with a trocar and cannula. The operation had been repeated twice during the following two months, when the fluid had been found to be purulent. Septic symptoms had developed, and an incision had been made to promote free drainage. The speaker saw him for the first time a year ago last May, and found that he was wearing a rubber drainage-tube, which was closed by the pressure of the ribs between which it passed. Two inches of the seventh rib were exsected, and as much of the cavity as could be reached by the index finger was thoroughly scraped out, using the finger-nail as a scraper. The wall of the abscess could not be felt in a posterior direction, although the finger penetrated to its entire length. Two stiff rubber drainage-tubes were inserted. The patient's convalescence was retarded by his dissipated habits, so that it was nine months before he could remove the tubes. The cavity was at first washed every third or fourth day (but later in the management of the case daily irrigations were made) with a solution of bichloride, beginning with 1 to 3,000, and gradually increasing in strength up to 1 to 500. Fifty or sixty injections of the latter had been given without causing any symptoms of bichloride poisoning. A weaker solution had been always injected immediately after the strong one, in order to wash out any excess of the sublimate. The lung on the affected side had been then collapsed, but on the other side the respiratory movement had been good, and the patient had been fully restored to health.

Dr. Sands thought that the case illustrated clearly the value of a free opening in cases of purulent effusion into the chest. He had seen several cases in which, from the neglect to perform an operation early, the lung had become so bound down that it was impossible to effect a cure, even by removing portions of ribs. In one instance, at Roosevelt Hospital, he had exsected three inches from two ribs, but without curing the patient. If an opening was made early, Estlander's operation might be unnecessary. Dr. Wyeth's case also showed that it was not always necessary to remove much of the rib when the lung was remote from the chest-wall.

In reply to a question by Dr. Weir, Dr. Wyeth said that he had not measured the contents at the time of operation, but a few weeks after, the cavity would have held about half a pint of fluid.

Dr. Weir said that Estlander's operation had not given as good results as had been expected; it was often necessary to repeat it two or three times. Even after removing portions of ribs, the surgeon was often obliged to scrape out the cavity, to employ stimulating injections, or even to make a counter-opening. Sometimes the empyema cavity could be further opened at the performance of Estlander's operation by fracturing some of the ribs posteriorly.

Dr. Wyeth said that the most important point was to secure perfect drainage from the bottom of the cavity, and to wash it out frequently. He used tubes of stiff white rubber. In reply to Dr. Sands's statement that he always used two tubes, side by side, the speaker said that he had omitted to mention that he also employed two tubes in the same manner.

Dr. C. T. Poore asked if a simple incision was not sufficient in most cases of empyema without exsecting a piece of rib.

Dr. Wyeth replied in the affirmative.

Dr. Briddon cited the case of a patient upon whom he had operated at the Presbyterian Hospital, removing portions of five ribs. Although the cavity had been diminished in size, it had still contained three or four ounces of pus when the patient left the hospital. A second operation had been proposed and declined.

Osteoma of the Upper Jaw; Removal of the Superior Maxilla without making an Incision through the Cheek.—Dr. Wyeth presented a patient from whom he had removed an osseous tumor of the left superior maxilla, involving almost all of this bone. [The specimen was shown.] He was a German, aged twenty-eight, who at the age of fourteen had noticed a small swelling on the left upper jaw. It had grown slowly and had been examined by a prominent German surgeon, who had pronounced it to be a benign growth. The speaker had seen him for the first time six months before; the tumor was then increasing in size and caused considerable deformity, so that an operation was advised. It was readily removed through the mouth, *without incision through the soft parts of the face*, by the subperiosteal method. The growth involved the antrum, the whole of which was removed. Goodwillie's gag proved of great assistance during the operation. The periosteum was sutured with silk, and the patient left the hospital on the fourth day after the operation. The bone had been largely restored.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

(*Continued from page 498.*)

Leprosy.—Dr. Van Harlingen's paper on this subject being under discussion, Dr. H. W. Stelwagon said that he hesitated to express a positive opinion regarding a disease of which he had seen so little clinically. Various views of its ætiology had been held from time to time, and even at the present time these differences prevailed. It had formerly been charged to dietetic and climatic influences, but these, as exclusive factors, had been disproved. Another view was that its spread was due entirely to hereditary transmission, but a study of the affection had excluded this as a main cause. Later opinions were that the disease was contagious through inoculation, a view that had much in its favor, but this also had been disputed by some writers who had been in a position to study the disease. One fact that appeared to be against this view was that in Norway, where there were from two to three thousand lepers, the number of cases had been steadily decreasing for the last fifteen or twenty years. The decrease was due, it was true, in a measure to the establishment of lazarettos, but not entirely, for these contained not more than one third of the whole number of lepers. At the present day, therefore, more or less doubt still existed as to the nature of the disease.

Dr. W. Osler said that the questions with reference to the contagiousness or inheritance of leprosy were, of course, exceedingly interesting. Dr. Graham, of Toronto, had made an elaborate study of the disease as it occurred at Tracadie, New Brunswick, and had come to the conclusion that it was contagious, and that it was not transmitted by inheritance. There, as in Norway, the cases had been progressively diminishing in number. Certainly, if it was contagious, it must be so in a very slight degree. It was probably not nearly so contagious as ordinary tuberculosis. The speaker would ask Dr. Van Harlingen whether he had made any examination of sections of the skin in the second case. It might, however, be taken for granted that bacilli were present. The speaker had had few opportunities for seeing leprosy. A case of interest which had come under his observation in Canada was that of a man who had suffered for some thirty years with the anæsthetic variety, and whose sight was finally destroyed by leprous keratitis.

Dr. A. Hewson had seen something of the anæsthetic form of leprosy, and had recently resorted to a plan of treatment which had been suggested to him by the lecture of the president of the society on Bergeon's use of gas, as in the treatment of phthisis. He had resorted to this expedient in a case where the bacilli were recognized in the skin. He applied the mixture of gases to various parts of the skin, especially the lobes of the ears, by means of inverted funnels, for twenty minutes each day. There was a perceptible reduction in the induration in the course of twenty-four hours, and at the end of ten or twelve days there was such an improvement that one would hardly have recognized the patient as the same person. He would say in this connection that he had been treating cases of keratitis with granular lids by means of these applications of the sulphureted-hydrogen and carbonic-acid gases together. Within twenty-four hours there was such a reduction in the swelling and induration that the lids, which before could not be everted, could be examined without difficulty, and the presence of granular lids as the cause of the keratitis demonstrated. The application in all such cases proved acceptable to the patient by its characteristic sensation of gentle warmth to be felt in the part.

Dr. Van Harlingen said that his object had simply been to exhibit the patient with leprosy, and not to read a paper on the disease. He had, therefore, not referred to certain of the points brought out in the discussion. He had not yet made such examinations as Dr. Osler had suggested, but he would be glad to do so. His main reason for not making sections was, that he had not wished to run the risk of producing lesions that might give the woman trouble. He saw to-night that she had cut her hand severely. If these wounds healed kindly, he would be tempted to remove a piece of the diseased skin for microscopical examination. It might be said that, as the cause of the disease lay in bacillar infection, anything that would kill the bacilli would probably benefit the patient. Unna, of Hamburg, from a study of certain cases, had come to the conclusion that a great deal of benefit was to be obtained by the application of certain agents which killed the bacilli. How far this method would prove effective the speaker did not know. That it would prove effective in the anæsthetic form he very much doubted. The reason that a patient had anæsthetic patches was not that the bacilli were in the skin, but that they were deposited in the nerves which supplied these patches.

Migraine in Childhood.—Dr. Wharton Sinkler read the following paper:

Migraine is more common in children than is generally realized. Popularly the attacks of "sick headache," which many children have, are attributed to disorder of the stomach from some indiscretion in diet, and many physicians hold the same view. The fact that migraine is a disease which is especially likely to begin about the period of puberty has long been recognized, and this point has been insisted upon by Anstie. Many children begin to suffer from characteristic attacks as early as seven or eight years of age (Eulenburg speaks of a girl who suffered from excessively severe attacks from her fourth year), and continue to have them until adult life is reached; or, indeed, the attacks may continue all through life. Still, it is most often the case that when migraine begins in early childhood it becomes more severe at puberty and ceases by the time full development is attained. The influence of hereditation is seen to a marked degree in migraine, and the affection often seems to be directly handed down from one generation to the next. It is transmitted from parent to child, and may follow either the male or female line, descending from father to son or from mother to daughter.

The children who suffer from migraine often belong to neurotic families, and it is common to find among the near relatives instances of other nervous disorders. It is, then, important for us to be on the lookout for migraine in children who belong to families of nervous tendencies. I have now under my care for sick headaches a lad of fourteen years, whose mother has violent attacks of neuralgia, and one of his sisters is a well-marked example of hysteria. It is a well-recognized fact that children who suffer from this disease at and before the time of puberty may, in later life, become the subjects of some of the grave neuroses, such as epilepsy or insanity. The great value of the early recognition and cure of the disease is, therefore, apparent.

In addition to the influence of heredity, there are many other causes which may induce migraine in children. The manner in which a child is brought up has much to do with the production of these attacks. Improper food, bad atmosphere, and, above all, an insufficient amount of sleep with overtaxing of the brain, all tend to predispose to or directly bring on migraine. When a child first begins school he often complains of more or less headache. The close air of the school-room and too little exercise are enough to account for some of these headaches. In other children, mere mental effort brings on attacks of pain in the head. The same thing holds good of migraine that I have observed in chorea—namely, that it is the studious, ambitious children, who stand at or near the head of their classes, who suffer from both of these affections. In many instances there are ocular defects, which cause eye-strain, and in these cases the attacks of migraine continue to become more and more frequent in proportion as the eyes are used, until the eye-defect is corrected by glasses. It is not in all cases, however, that the headaches which follow excessive use of the eyes are due to ocular defect. . . .

Migraine does not appear to affect one sex more than the other, but if any difference does exist the preponderance is in boys. Precocious sexual development in either sex often leads to this form of headache. It is astonishing at what an early age evidences of sexual irritation may appear. Bad associations and influences lead a child into thoughts and practices which are unwholesome in the extreme, and bring about disorders of the whole nervous system. Even before puberty arrives the nervous system undergoes a preparatory change, and, if there are evil conditions in the surroundings of a child to excite sexual irritation, puberty is hurried forward. Under these influences a child becomes hypochondriacal and mopy, complains of various ailments—some of which are real and some fancied—and may suffer from real neuralgias. It is very seldom that we meet with migraine in robust and hearty children; but it is seen in those who do not get enough fresh air and who are thin and pale; or in children who think and read too much, and who do not romp and play, but prefer to sit with older people and drink in conversation far beyond their years.

The symptoms of migraine in young children are not far different from those in adults. The attacks are markedly paroxysmal, occurring from two to six weeks apart, and become more or less frequent according as the conditions for their development are favorable or otherwise. There may be only one or two attacks a year. The attacks may be preceded by premonitory symptoms, such as chilliness and a feeling of lassitude, and the child is dull and indisposed to play. Sometimes there are subjective ocular symptoms in the form of specks floating before the eyes, muscæ volitantes, or balls of fire, and bright zigzags. Occasionally the child complains of hemiopia. These symptoms last a half hour or more, and may be followed by subjective numbness of the tongue, lips, or of the entire half of the body. Putnam* had a patient in whom in boyhood migraine was represented by repeated attacks of numbness and tingling of the right side of the face and right half of the body, with aphasia and hemianopsia, followed by but trifling headache or none at all. Later in life there were severe attacks of pain. Usually as soon as the subjective auras disappear the pain begins. At first the pain is dull, and it may be confined to one side of the head; generally, in children, the pain is on both sides of the head, at least they complain of the pain as being general, and it may be either frontal or occipital; most frequently it is frontal. Anstie says this is common of all neuralgias of children—*i. e.*, to be frontal, and to affect both sides simultaneously. There is often nausea throughout the attack, or it may terminate in vomiting, or a free flow of urine, or sometimes there are two or three diarrhœic stools. After the crisis is reached the child may fall asleep, and after a nap waken well. The attack does not always terminate in a crisis; after a gradually increasing headache for several hours it gradually subsides. The face in the beginning of an attack may be pallid, and as the pain increases the face becomes deeply flushed, and the eyes become suffused.

The treatment must be preventive and curative. If a child is of a neurotic family, in which there are already instances of neuralgia and migraine, we should urge the parents to see that he has as wholesome a life as possible. Insist on ten hours' sleep a night, and keep him from too prolonged application to his books. Six or seven hours of study in the twenty-four is enough for a growing child. Encourage outdoor sports of all kinds, and, if possible, keep such a child in the country for many months in the year. The diet should be abundant and nutritious, milk, eggs, soups, and broths, with meat in moderation and the various cereals, and plenty of vegetables and fruit. Such children can eat largely, and plenty of fatty articles of food is well borne and is of great advantage.

There is a great tendency, in the education of both girls and boys, to overcramming and to overstimulation, to reach a high educational standard; but it is encouraging to see the effort which is now being made in our schools to vary and widen the course of study. The introduction of manual art into the public schools is of inestimable value to the children, not only because it gives them dexterity and skill in the use of the hands which become of practical advantage later in life, but because it trains the minds in studies which are, so to speak, external in their kind.

As physicians, we can not too strongly discourage the taking of young children to the theatres, where not only the late hours and bad air are injurious, but the impressions produced by the plays must be pernicious to an extreme. One can not go to the theatre now without seeing children of all ages looking on at every variety of performance, from the most *décolleté* spectacular ballet to a melodrama of the highest intensity.

If a child has already begun to have attacks of migraine, nothing is of more value than attention to the general health.

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* Pepper's "System of Medicine," vol. v, p. 1231.

Such children are often pale and thin, and have but little appetite. If change of air can be secured, it is often enough to produce relief from the attacks. If we can not send the patient away, we must resort to tonics and good feeding. Cod-liver oil, if it can be borne by the stomach, is of the greatest possible use in such cases. If the child can not take oil, we must introduce fat into the system in some other way. Cream and plenty of butter may be given. Devonshire clotted cream, which is now to be obtained at the Alderney dairies, is relished very much by children.

Special antineuralgic drugs are seldom indicated in these cases, but sometimes the bromides may be given with great advantage, especially in children who are of a very nervous temperament, and in whom any effort at brain-work causes headache. They should be given in small doses, and continuously for some weeks. [An illustrative case was then mentioned.]

In many cases some ocular defect will be found which will require correction by glasses, and many cases of migraine in children have been cured by this means alone. In all cases of migraine we should look carefully into the condition of the teeth, and have any unsound ones filled or removed.

Dr. C. M. Seltzer wished that the author had been more explicit with reference to the dietetic treatment. He had inferred from his remarks that the majority of his patients had been underfed. Most of those that the speaker had observed had had an excess of nitrogenous articles, with a lack of sufficient vegetable food. He had produced the best results by limiting the quantity of nitrogenous food, especially in children, and by increasing the quantity of butter, cream, and fatty articles. He directed light suppers, abundant sleep, and moderate exercise, especially in gymnastics. For patients treated in this way, but little medicine was required.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Continued from page 475.*)

The Ætiology of Deflections of the Nasal Septum.—Dr. D. B. Delavan, of New York, read a paper on this subject (see page 539).

Dr. E. C. Morgan, of Washington: I wish to express my gratitude to Dr. Delavan not only for the valuable paper which he has presented to-day, but also for the exhaustive investigations which he has made in the past regarding the much-mooted question of deformities of the nasal fossæ. As to the ætiology of deflected nasal septa, I can, from a clinical standpoint, say, so far as my observation goes, I have been able in nearly every case to trace the deflected septum to traumatism. At first the history may have been somewhat obscure, but it has been cleared up by investigation. Some member of the family has been able to recall the fact that the patient at an early period of life sustained an injury to the nasal organ. Concerning the apparent immunity from deformity of the nasal septum enjoyed by uncivilized or partially civilized races, I will again say that my clinical experience with the African race in the hospitals at Washington has been large, and I have seen deflection of the nasal septum but very rarely. I have not investigated the subject from a statistical standpoint, for my attention was called to it for the first time by Dr. Delavan's paper.

Dr. F. Donaldson, Jr., of Baltimore: As to deflection of the nasal septum in the colored race, I had for some years a large dispensary practice among these people, and I do believe that this deformity is not so common with them as with the white race.

Dr. C. E. Sajous, of Philadelphia: I wish to express my admiration of Dr. Delavan's efforts in this direction. His paper is one which will be of a great deal of interest to authors, and I am sure it will be quoted, as it is worthy of being. So far as the ætiology of deflection of the nasal septum is concerned, I hardly think that traumatism can be clearly defined in every case, for, as Dr. Cohen says, all children get bumps on the nose. We know how elastic the end of the nose is, and the general elasticity of the nasal structures is in proportion to the youthfulness of the person. I therefore think that in trying to trace a history of traumatism we should not go back of a certain age, say seven years. Of course an exception would be made where much deformity existed which could be traced directly to a severe blow before the seventh year. With regard to the indications of treatment when there is deflection of the nose, if I find that the patient has diminished breathing capacity through the nose, that he has to breathe through the mouth, I institute treatment; but if he makes no complaint, and I see that respiration through the nose is satisfactory, I leave it alone, for those operations at best are often unsatisfactory, correction of the deformity frequently proving fruitless. With regard to the procedure to be adopted, I quite agree with Dr. Delavan that it is a mistake to try to establish a fixed measure for all cases. In one you will require the punch, in another the saw, in another the burr, and in most of them you will not require those things at all. It seldom occurs that out of twenty cases you will find any two having any resemblance whatever.

Dr. J. Solis-Cohen, of Philadelphia: This is a very obscure subject. Of course we are all very much indebted for the light which has been thrown upon it by this review of matter relating to the ætiology. While it is well known that the colored people of the South have a large admixture of the Caucasian blood, still it is true that they have large nostrils, with probably less obstruction to nasal respiration, and that would account for their having a straighter septum than white people, and would go to support the theory of the writer of the paper. The American Indians make it a point to breathe through the nose. When they sleep they sometimes place the hands over the month for the purpose of preventing mouth-breathing. Since my attention was directed to the subject of deformity of the palate by the article of Dr. Jarvis and others, I have examined all my patients with regard to that point, and, while I must agree that in the majority of cases this deformity of the palate and deflection of the septum go together, I am equally positive that in a great many cases of deflection of the septum there is a fairly normal arch, and that there may be a high arch without a deflected septum. While speaking on this subject I would mention an observation which I have often made, but which, as far as I know, has not attracted the attention of others—viz., that besides the arching of the roof of the mouth there is often something which looks like an exostosis at the roof the palate. It may be that in these cases there is a greater tuberosity, a greater outgrowth of bone, both of the superior maxillary bone and of the nasal septum. Since the statement was made that children have a vertical septum I have given attention to that point, and have found that in a great many children the septum is deflected although they have not yet attained to the seventh year. With regard to traumatism, of course we know that nurses will drop the children, that boys will fight, and so on, and it is difficult to eliminate this factor, and it is hard to say how many cases are due to that. In conclusion, I would most emphatically state that I have seen over and over again cases in which there was marked deflection of the nasal septum, and in which there was no difficulty at all in respiration.

Dr. J. N. Mackenzie, of Baltimore: I rise to congratulate Dr. Delavan on the admirable paper which he has given us. It is a subject in which I am very much interested myself, and which I dealt with in an elaborate manner some years ago ("Transactions of the Virginia State Medical Society," 1883.) I wish, therefore, to make some remarks upon certain of the points which have been raised. With regard to race peculiarities, I do not recall a single case of deflection of the septum in an African in which I have been obliged to operate. Yet I see a great many Africans at my clinic in Baltimore. I have seen deflection of the septum in them, but not demanding operation. A good many factors enter into the question of race peculiarities, among which national customs may exert some influence. Among some races the nose is carefully molded during infancy. In Detroit I called attention to the custom of the ancient Persians, especially those in the higher walks of life, who molded the nose of their offspring so that the septum would be perfectly straight. No Persian was allowed to sit on the throne unless he had a perfectly straight septum and a correspondingly good-looking nose. With regard to the congenital origin of these deflections, while the positions taken by Dr. Delavan are excellent, still it seems to me not impossible that the deformity may occur during intra-uterine life. There may be some changes in development during the fœtal state which may give rise to deformity of the septum. I think that in a certain proportion of cases the suggestion made years ago by Morgagni may have some weight—namely, that the deflection may be due to the rapid growth of the septum and comparatively slow growth of the surrounding parts. The suggestion of Follin and Duplay, which has been referred to by Dr. Jarvis, regarding the influence of the development of the palatine arch, etc., may be an important one, but the great exciting cause is unquestionably traumatism. In the vast majority of cases where patients present themselves for treatment it will be found, on close inquiry, that the lesion originated in trauma. Especially is this true of deformity of the cartilaginous septum.

Dr. Delavan's remark at the close of his paper was certainly a very pertinent one. It is utterly absurd to say that one method of treatment will be efficacious in every case. The spurs which are so common in the nasal cavity are by no means always of sufficient importance to be sawed off, or pinched off, or dealt with in a very radical manner. In the majority of those cases, unless some obstructive lesion exists, I find there is very little difficulty in breathing through the nose, and I let them alone unless there is some irritative process which may be removed by division of the spur. I think the septum is too often and too violently assailed. While in cases that require treatment I would not hesitate to perform any operation, still I think we ought to select our cases.

Dr. T. A. De Blois, of Boston: There is a class of cases I have not heard spoken of—namely, the nose of the pugilist. During the past winter a number of prominent pugilists have been under my care, and my wonder has been excited that in them the septum is so little deflected. The nasal bones may have been seriously injured, and the nose itself spread all over the face, yet the septum will remain wonderfully straight. I can recall the case of a well-known man whose nose has been completely broken over and over again, yet whose septum is in a right line, and whose nasal respiration is exceedingly good. Last winter I saw a pugilist immediately after the cartilaginous septum had been separated from the bony septum. It was very easily put back into place. He had not had a deflected septum from his previous experience. What is remarkable in these cases is the immense size of the lower turbinated bones anteriorly. It seemed to me that the beating which these people get increases the size of the turbinated bones a great deal more than of the septum. I suppose these could certainly be considered traumatic cases.

Dr. J. O. Roe, of Rochester: The most frequent result from injury to the nose in children, in the cases which have come under my observation, is dislocation of the triangular cartilage. This is an injury which has been very slightly alluded to. In a number of instances I have seen this cartilage so dislocated as to almost completely occlude both nostrils—one by the bulging outward at the point of dislocation, and the other by the end of the cartilage being turned across it. In another class of cases we find one side of the septum straight, while the opposite nostril may be nearly occluded by a bony outgrowth along the lower portion of the septum, which gives it the appearance of being deflected. This, I think, is often due, as Dr. Bosworth has already pointed out, to exostosis along the line of the maxillary articulation, resulting from an injury during childhood, and producing at this point an arthritis. Reference has been made in this discussion to the use of the punch in the treatment of angular deflections of the septum. This is a method which I can not indorse, and which I consider very bad surgery. To remove the deformity in the septum by this method is a confession of our inability to correct it by better surgical means. The hole which is left in the septum by the punch forms a place for the collection of the secretions, which become dried into crust, and produce more or less irritation. At the point of angular deflections of the septum there is always more or less exostosis, which is thrown out as the result of the injury. This should be removed, which is best done by the nasal saw, before any attempt is made to correct the deflection.

The President: I wish to correct my record of 1882, at which time I expressed it as my belief that these changes in the position of the septum did not occur in early life, but that they made their appearance about the age of puberty. Since that time I have had some experience leading me to modify that view. I recall two cases in which it became necessary to operate on children under two years and a half of age because the nostril was completely occluded by a deviated septum. The remarks of two of the gentlemen with reference to traumatism were very pertinent. I think that when the injury is not sufficient to fracture or dislocate the nasal bones, or to dislodge the cartilage, there is no probability that deformity will result. If the nasal bones are fractured, we can readily understand how the deformity results; if the cartilage is separated at either border, an inflammatory process will be set up which is very apt to increase its growth, and in that way cause deformity. But, if we bend the cartilage to one side or the other, it springs back as a sheet of steel would, and can not remain in the normal position.

Miscellany.

The New York State Medical Association.—At the fifth special meeting of the Fifth District Branch, to be held at New Brighton, Richmond Co., on Tuesday, the 15th inst., the following-named papers are expected to be read: "Remarks on the Clinical Significance of Sphygmographic Tracings," by Dr. Alfred L. Carroll; "The Individuality of Disease," by Dr. Edwin Barnes; "Chronic Progressive Caries of the Bones of the Foot," by Dr. W. C. Walser; "Antithermics in Neuralgic Pains," by Dr. S. H. Benton; and "Demonstration of a Dressing for Green-stick Fracture of the Clavicle," by Dr. Alfred L. Carroll.

The late Dr. William M. Chamberlain.—At the regular meeting of the medical board of Charity Hospital, held November 1, 1887, the following preamble and resolutions were unanimously adopted:

Whereas, William M. Chamberlain, M. D., one of the oldest and most honored members of this board, has recently been removed by death.

Resolved, That we hereby express our deep sense of the loss which the medical board of Charity Hospital has sustained in his decease.

Resolved, That we bear testimony to his high professional and literary attainments, to the sterling integrity of his character, to his kindly social qualities, to his sound judgment and skill, and to his devotion to the interests of Charity Hospital, in which he served for more than sixteen years as visiting physician, and subsequently, as consulting physician, to the time of his death.

Resolved, That a copy of these resolutions be transmitted to the medical journals of this city and to the family of our deceased associate, to whom we desire to extend our sincere sympathy in their affliction.

[Signed.] { F. N. Otis, M. D.,
J. Lewis Smith, M. D.,
Robert W. Taylor, M. D.

The Alleged Alkaloid, Gleditschine.—The following letter from Dr. J. Herbert Claiborne, Jr., appeared in the "Medical Record" for November 5th:

"In view of the recent statements of several analytical chemists that gleditschine, the new local anæsthetic, is nothing but a mixture of cocaine and atropine, I deem that I owe it to the readers of the 'Medical Record' to say a few words on the subject. Mr. Goodman has just returned from Bayou Sara, La., where, he states, he has been making the solution of gleditschine. He informs me that he heard for the first time, on his arrival in Bergen Point, N. J., November 1st, of the analysis of the chemists, who find the solution to contain atropine and cocaine. He expressed himself as being earnestly desirous of setting himself right in the eyes of the medical profession, and, in order to convince them of the genuineness of his discovery, he agrees to do the following:

"I, Dr. Claiborne, am to select two medical men of this city: they are to select as a committee of two a botanist and a chemist; the botanist is to examine the leaves which will be used, and is to pass an expert opinion as to whether they are the leaves of the *Gleditschia triacanthos*, and, if not, of what tree they are leaves. The chemist is to bring the chemicals necessary, these being indicated by Dr. Seward or Mr. Goodman, and is to make the solution from the leaves in possession of Dr. Seward and Mr. Goodman, under their direction. The chemist is then to test the anæsthetic and mydriatic effect of this solution on a human being or lower animal selected by himself (the chemist), and is to state to the world, through the columns of the New York 'Medical Record' and the 'New York Medical Journal,' whether said solution has anæsthetic and mydriatic effects or not. If cocaine or any mydriatic be employed in the process, to say so; if not, to say not. The condition to be imposed is that the chemist, on his word as his bond, is not to divulge the method of procedure of obtaining the substance. This solution, if it be desired, may be placed in the hands of experts, who may pass judgment upon its anæsthetic and mydriatic properties. Bergen Point, N. J., is to be the site of the procedure, or, if it be demanded, any other place. No one can fail to be struck by the fairness of this proposition. Dr. George F. Shrady and Dr. Frank P. Foster have agreed to act as a committee in this matter. Mr. Goodman informs me that he has had shipped from New Orleans a quantity of the leaves of the tear-blanket tree, by one of the Cromwell line of steamers, and that he expects them shortly.

"To my mind the solution seemed to have effects different from cocaine or atropine. Moreover, several facts regarding the tree, which have come under my observation, or to which my attention has been called, seemed to warrant the conclusion that the point had not been proved beyond a reasonable doubt. In this connection I would say that, with a strong aqueous solution of the gleditschia leaf, obtained through a friend from a chemist in New Jersey, who was experimenting in this direction, I observed in my own eye and in that of my friend a dilatation of the pupil. This lasted in my case for several days. His case was not followed up. No anæsthetic effect was observed in either. Every seeming possibility of error was eliminated. A bottle was used for the solution which had never been used for a mydriatic or any other medicine, as far as was known, a new medicine-dropper was used, and my own hands were thoroughly washed before commencing. Neither this gentleman nor myself had touched a bottle containing any mydriatic for twenty-four hours. It is pertinent to remark that the dilatation was slight, and that copious and frequent instillations were made for an hour.

"In a recent communication to me concerning gleditschine, from one of the chemists who have been investigating the matter, it was said that Dr. Rusby had stated to them that the 'natives of Bolivia, whenever they are unable to obtain supplies of coca leaves, chew the leaves of a tree which is closely allied to the gleditschia, and which leaves they call *chinchi-coca*.'

"Those who, it is alleged, have made this discovery have been denounced in the most unmeasured terms by certain chemists. It is, therefore, in the highest degree proper that the plain and unvarnished truth should be known. It is to be hoped that we are approaching the finale of this most interesting and perplexing question."

Under date of November 5th, the editor of the "New York Medical Journal" wrote as follows to the editor of the "Medical Record":

"In a note from Dr. J. Herbert Claiborne, Jr., published in the 'Record' of this date, I find it stated that you and I have consented to nominate a chemist and a botanist to superintend an attempt on the part of Mr. Goodman and Dr. Seward to extract an alkaloid from the *Gleditschia triacanthos*, together with this statement: 'The condition to be imposed is that the chemist, on his word as his bond, is not to divulge the method of procedure of obtaining the substance.'

"I took pleasure in acceding to Dr. Claiborne's request that I should act with you in the capacity in question, but I did not suppose that any such condition was to be attached to the arrangement. Dr. Claiborne said something about a desire on the part of Mr. Goodman and Dr. Seward that their process should be kept a secret, but I told him that that was impossible, and I thought that he agreed with me. Had I supposed that such a condition was seriously intended to be made a part of the plan of procedure, I should have declined to have any connection with it, for it seemed to me that it would be unsatisfactory to the profession and an indignity put upon the chemist and the botanist who were expected to perform a service in the interest of science."

The Health of Michigan.—According to a summary of returns to the State Board of Health, for the four weeks ending October 29th, diphtheria was reported from fifty-eight places, scarlet fever from thirty-six, typhoid fever from forty-five, measles from twelve, and small-pox from one place.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 4th:

(Published in accordance with Section 4, act approved April 29, 1878.)

The act approved April 29, 1878, referred to, is as follows, and is published for the information of officers concerned:

"An act to prevent the introduction of contagious or infectious diseases into the United States.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That no vessel or vehicle coming from any foreign port or country where any contagious or infectious disease may exist, and no vessel or vehicle conveying any person or persons, merchandise or animals, affected with any infectious or contagious disease, shall enter any port of the United States or pass the boundary-line between the United States and any foreign country, contrary to the quarantine laws of any one of said United States, into or through the jurisdiction of which said vessel or vehicle may pass, or to which it is destined, or except in the manner and subject to the regulations to be prescribed as hereinafter provided.

"Sec. 2. That whenever any infectious or contagious disease shall appear in any foreign port or country, and whenever any vessel shall leave any infected foreign port, or, having on board goods or passengers coming from any place or district infected with cholera or yellow fever, shall leave any foreign port, bound for any port in the United States, the consular officer, or other representative of the United States at or nearest such foreign port, shall immediately give information thereof to the Supervising Surgeon-General of the Marine-Hospital Service, and shall report to him the name, the date of departure, and the port of destination of such vessel; and shall also make the same report to the health officer of the port of destination in the United States, and the consular officers of the United States shall make weekly reports to him of the sanitary condition of the ports at which they are respectively stationed; and the said Surgeon-General of the Marine-Hospital Service shall, under the direction of the Secretary of the Treasury, be charged with the execution of the provisions of this act, and shall frame all needful rules and regulations for that purpose, which rules and regulations shall be subject to the approval of the President, but such rules and regulations shall not conflict with or impair any sanitary or quarantine laws or regulations of any State or municipal authorities now existing or which may hereafter be enacted.

"Sec. 3. That it shall be the duty of the medical officers of the Marine-Hospital Service and of customs officers to aid in the enforcement of the national quarantine rules and regulations established under the preceding section; but no additional compensation shall be allowed said officers by reason of such services as they may be required to perform under this act, except actual and necessary traveling expenses.

"Sec. 4. That the Surgeon-General of the Marine-Hospital Service shall, upon receipt of information of the departure of any vessel, goods, or passengers from infected places to any port in the United States, immediately notify the proper State or municipal and United States officer or officers at the threatened port of destination of the vessel, and shall prepare and transmit to the medical officers of the Marine-Hospital Service, to collectors of customs, and to the State and municipal health authorities of the United States, weekly abstracts of the consular sanitary reports and other pertinent information received by him.

"Sec. 5. That whenever, at any port of the United States, any State or municipal quarantine system may now, or may hereafter exist, the officers or agents of such system shall, upon the application of the respective State or municipal authorities, be authorized and empowered to act as officers or agents of the national quarantine system, and shall be clothed with all the powers of United States officers for quarantine purposes, but shall receive no pay or emoluments from the United States. At all other ports where, in the opinion of the Secretary of the Treasury, it shall be deemed necessary to establish quarantine, the medical officers or other agents of the Marine-Hospital Service shall perform such duties in the enforcement of the quarantine rules and regulations as may be assigned them by the Surgeon-General of that service under this act: *Provided*, That there shall be no interference in any manner with any quarantine laws or regulations as they now exist or may hereafter be adopted under State laws.

"Sec. 6. That all acts or parts of acts inconsistent with this act be and the same are hereby repealed."

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 15th corresponded to an annual rate of 17·8 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Leicester, viz., 14·2, and the highest in Plymouth, viz., 27·1 in a thousand. Small-pox caused 8 deaths in Sheffield.

London.—One thousand three hundred and fifty-one deaths were registered during the week ending October 15th, including 14 from measles, 56 from scarlet fever, 22 from diphtheria, 27 from whooping-cough, 17 from enteric fever, and 24 from diarrhœa and dysentery. There were 280 deaths from diseases of the respiratory organs. Different forms of violence caused 58 deaths, and 8 suicides were registered. The deaths from all causes corresponded to an annual rate of 16·7 in a thousand. In greater London 1,677 deaths were registered, corresponding to an annual rate of 16·2 in a thousand of the population. In the "outer ring" 11 deaths from diphtheria, 9 from scarlet fever, and 8 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 15th in the sixteen principal town districts of Ireland was 24·1 in a thousand of the population. The lowest rate was recorded in Lisbon, viz., 9·7, and the highest in Waterford, viz., 46·3 in a thousand.

Dublin.—One hundred and eighty-five deaths were registered during the week ending October 15th, including 6 from measles, 2 from whooping-cough, 11 from scarlet fever, 6 from enteric fever, 9 from diarrhœa, and 1 from diphtheria. Diseases of the respiratory organs caused 31 deaths. Seven accidental deaths were registered, and in 23 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 27·3 in a thousand.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending October 8th corresponded to an annual rate of 19·8 in a thousand. The lowest rate was recorded in Braunschweig, viz., 11·2, and the highest in Königsberg, viz., 31·7.

Netherlands.—The deaths registered in the principal cities of the Netherlands, having an aggregate population of 1,102,200, during the month of August, corresponded to an annual rate of 19·8 in a thousand. The lowest rate was recorded in Groningen, viz., 15·7, and the highest in Maastricht, viz., 27·8.

Ningpo.—The United States consul, in his dispatch dated September 15, 1887, states that "cholera is on the decrease in this village, while in the walled city it has not abated since my last report. The two American missionaries reported by the doctor are Dr. C. C. Lord (for many years our consul at this port) and his wife. They were attacked with cholera on the 13th inst.; this morning they were both very low, but I hope for the best." The consul also incloses a copy of Dr. Daly's report on the health of the city, stating that the number of deaths per day is estimated at from 200 to 600.

Palermo.—The United States consul, in his dispatch dated October 10, 1887, with reference to cholera, states that—

"I now have the honor to say that only 11 cases thereof and 8 deaths therefrom occurred during the week ending the 9th inst.—a decrease of 8 cases and 4 deaths, compared with the preceding week."

Naples.—The United States consul, in his dispatch dated October 10, 1887, states that "according to the best information I have been able to obtain, the number of deaths resulting from cholera in the city of Naples between the 27th of September and the 6th of October were 18. Since that time there have been no cases. In the surroundings of Naples the disease has also almost entirely disappeared."

Santiago de Cuba.—The sanitary inspector, in his report for the week ending October 23, 1887, reports that "the small-pox epidemic has completely disappeared, only 1 case of varioloid having been recorded, and no deaths. Scarlet fever rages at present in a mild form. Yellow fever still prevails among the troops of the garrison, but the cases are treated at the military hospital, outside the city limits. Twelve cases and 8 deaths have been recorded for the week. I may here state that it is exceedingly rare that cases of yellow fever do not exist at the military hospital. The port is clean, no sickness having taken place on board the shipping."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Glasgow	October 15.	545,678	236	..	....	....	....	....	8	5
Munich	October 8.	269,000	126	..	....	....	....	1	....	5
Rio de Janeiro	Septemb'r 17.	300,000	413	..	...	171	....	2	....	1
Rio de Janeiro	Septemb'r 24.	300,000	367	..	1	142	....	3	....	1
Palermo	October 16.	250,000	91	7	....	....	...	2	2	4
Genoa	October 15.	179,545	84	..	....	9	1	....	....	1
Leipsic	October 15.	170,000	64	..	....	....	....	....	....	8
Trieste	October 9.	150,157	113	..	....	9	....	1	2	2
Toronto	October 23.	125,000	33	..	....	....	....	....	....	4
Pernambuco	October 1.	111,000	61	..	....	....	....	1	....	....
Barmen	October 8.	108,000	29	..	....	....	1	....	....	....
Reims	October 15.	97,903	32	..	....	....	....	1	....	1
Mayence	October 1.	65,701	21	..	....	....	....	....	1	...

UNITED STATES.

Tampa, Fla.—Yellow Fever.—The quarantine inspector telegraphed, under date of November 3, 1887, as follows:

"For week ending November 2d, 74 cases, 9 deaths. Total cases, 325, approximately. Total deaths to date, 48. To-day, 3 new cases, 2 deaths. Think epidemic rapidly subsiding."

Many Lakes, Fla.—Dr. King Wylly, in his telegram dated October 31, 1887, with reference to alleged cases of yellow fever at several places in Pasco county, stated that "Dr. Montgomery reports 2 cases three weeks ago at Many Lakes. Man died, wife recovered; both refugees. No spread of disease. Other places perfectly healthy."

New York Quarantine.—The information contained in the New York "Evening Telegram," of October 27, 1887, relative to the departure of immigrants, with their baggage, from the infected Italian steamship Independente to Chicago, Cleveland, Philadelphia, New Orleans, St. Louis, Boston, Washington, Cincinnati, Pittsburgh, Baltimore, Syracuse, and Providence, was communicated by this bureau, the following morning, to the respective health officers at the places named, from the majority of whom immediate replies were received stating that search was being made for the immigrants, with a view of disinfecting their baggage and taking necessary precautions.

The commissioner of health of Chicago, under date of October 28th, telegraphed:

"I have found thirteen immigrants referred to yesterday; all well. I have found eight packing-cases and six bundles bedding. Clothing all packed near or at Palermo and not opened at New York. I shall disinfect or burn."

The health officer at New York, in his telegram next day (October 29th), stated that "the steamer Independente was detained more than twenty-four hours. All baggage, parcels, and bundles were opened in the steerage and thoroughly disinfected. There were no deaths during voyage, and not a single case of illness among the passengers."

Supplementary Mammary Glands.—Dr. D. C. Holton, of Brooklyn, sends us a short account of a case in which, on the third day after parturition, the patient complained of her breasts, for which he gave certain directions as to treatment. At his next visit he was told that the breasts were better, but that "the lumps under the arms" were still hard and painful, and that the patient had to lie with her arms over her head to prevent pressure on them. On examination, he found what at first appeared to be axillary lymphatic glands very much enlarged, but proved, on closer examination, to be supplementary mammary glands. They were situated one at the anterior border of each axilla, each being about as large as a duck's egg and having a small but distinct nipple with a faint areola surrounding it, and milk could be pressed from the nipples. It was the patient's third confinement, and she stated that the "lumps" had appeared with every child.

ANSWERS TO CORRESPONDENTS.

No. 79.—1. For an American graduate the requirements for admission to the Royal College of Surgeons of England are as follows: (*a*) Four whole years of medical studies. A college diploma is not enough; certificates must be shown covering the whole time. (*b*) Evidence of a thorough course in dissection (certificates from demonstrators). (*c*) Evidence that the candidate has had at least six months of hospital experience (a diploma from one of our hospitals will do). (*d*) Evidence that the candidate has personally attended in twenty cases of midwifery. (*e*) A written examination must be passed in anatomy, physiology, and surgery. (*f*) An oral examination must be passed in regional anatomy, physiology, histology, surgery, operative surgery, surgical diagnosis, surgical pathology, bandaging, and the use of surgical instruments and apparatus. 2. The entrance examination for the Royal College of Surgeons of England is the most difficult of the three. 3. The M. R. C. P. is practically impossible of attainment by an American until he has passed the L. R. C. P., as it calls for a practical knowledge of English methods of study, which can be acquired only by residence and study in England. We think you can obtain more precise information by addressing Mr. Trimmer, secretary of the Royal College of Surgeons, Lincoln's Inn Field, London; and Sir Henry Pitman, secretary of the Royal College of Physicians, Trafalgar Square, London.

No. 80.—The law of California provides for a board of examiners in each county, whose duty it is to examine into the genuineness of diplomas held by candidates for a license to practice. The fee for examining a diploma is one dollar. The holder of the diploma must make affidavit that he is the lawful possessor of the same, that he is the person named in it, that it was procured in the regular course of medical instruction, and without fraud or misrepresentation of any kind, and that the institution granting the diploma had, at the time of granting the same, a full corps of medical instructors, and was, at the said time, a legally incorporated institution actually and in good faith engaged in the business of medical education and in good standing, and that the applicant had complied with all its requirements. The diploma and the affidavits may be presented by letter or by proxy. Persons not holding a diploma or a license from a legally chartered medical institution in good standing must pass an examination before the county board, for which the fee is five dollars, to be returned if the board decides not to grant the certificate. A certificate may be refused or revoked for unprofessional or dishonorable conduct.

No. 81.—Equal parts of tincture of iodine, ammonia water, and collodion; to be applied with a camel's-hair pencil.

No. 82.—A satisfactory apparatus for the purpose can not be obtained of the dealers for much less than a hundred dollars.

No. 83.—It is effective, but far more painful than an ordinary blister.

No. 84.—Apply oil of turpentine to the glass at the time of drilling.

No. 85.—Try a cork covered with gutta-percha tissue, and renew the tissue occasionally.

No. 86.—Apply to the assistant secretary, Dr. N. G. McMaster, No 322 East Fifteenth Street.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, November 19, 1887.

Original Communications.

THE IMPORTANCE OF LOCAL TREATMENT IN DIPHTHERIA.*

By WILLIAM PORTER, M. D.,
ST. LOUIS.

It is not needed that mention should be made in this association of the wide prevalence of diphtheria or of the great fatality attending it. Neither would I be thought to assert that local treatment is the most important part in the conduct of this dread disease. Surely it were better to entirely lose sight of local requirements than to be lacking in that care and alertness needed in the successful general medication of each case.

The thought I would present here is that efficient local treatment is always indicated in the early stages of the disease, and often of avail in the more advanced complications. It is to be regretted that the physician is not called sooner in many instances. Often not until the system is profoundly impressed by the diphtheritic virus is he summoned, and then asked to combat, not an incipient fire, but a conflagration rapid in its advance and destructive in its tendency.

First of all, I believe that diphtheria is in its attack a local disease, most prone to invade a mucous membrane denuded of its epithelium. How the specific poison first finds a foothold we know not, but probably a direct contact is quickly followed by growth and absorption. As in the well-known phenomena attending successful vaccination, the systemic infection is quickly followed by increased local disturbance and exudation, most likely at the point of the primary infection. This new development, the false membrane, in its turn becomes a distributing center for all parts of the system.

If it were possible to antagonize the attack at the beginning, when the diphtheritic impression is first received, the problem of cure would be easily solved. And here let me say parenthetically that I believe it is good practice to use, frequently and thoroughly, astringent and antiseptic sprays and applications with children who may not show evidence of diphtheria, but who are or have been exposed to it by living in the same house, or are in any known way in the line of invasion. Just as an intact mucous membrane completely covered by epithelial scales may be securely protected from attack, so I hold that, in cases where a denuded membrane offers an invitation for the ready reception of the diphtheritic germ, we may afford an artificial protection, or by proper means destroy an already present foe.

Yet it is not of prophylaxis that this essay is to treat, but of efficient conduct in cases where the disease is present. These conditions exist: 1, a local specific inflammation; 2, a general septic condition, at first caused by, and afterward aided by, absorption from this local inflammation.

While many eminent practitioners depend upon general medication, and some have quite abandoned all forms of local treatment, it is evident that all indications are not met unless attention is given to the local manifestations of diphtheria. If the disease is of local origin, if the systemic infection is constantly receiving fresh re-enforcement by means of the ready absorption of the specific poison—aid the system by all means to throw off the incubus of infection, but also limit if possible the further supply.

How shall this best be done? This depends upon the amount of local progress. I do not hesitate to say that I have seen a local diphtheritic exudation melt away in three or four days under proper local applications, the system being at the same time well guarded. But were these true cases of diphtheria? This much in affirmation: Several of these of which I speak were in families where one child had just died from diphtheria, where the symptoms were all indicative of diphtheria, and where there had been every opportunity for infection.

An old cry is that a physician who professes to conduct his cases of diphtheria to a favorable termination is an alarmist, and his cases are simply follicular amygdalitis. Such a pitiable antagonism is unworthy a scientist. Mistakes do occur, and it is better they should be on the safe side; but I am willing to call a case diphtheria where I find that the child, having been exposed to the contagium, has anywhere upon the mucous membrane of the upper passages a thick, continuous yellow exudation, closely adherent to the mucous membrane, with a tendency to necrosis and sloughing, especially if the pulse is quick and weak and the temperature above normal. It is possible that such a case is not diphtheritic, but it is not probable, and we deal with probabilities. The differences in local appearance and general condition between a follicular exudation and the characteristic false membrane of diphtheria are usually so marked that the physician need not be mistaken, and if he does err, let him give the child the benefit of the doubt.

Beyond this class we have another or advanced degree of the same class in which there can be no doubt as to the type of disease. We find it when called two or three days after the first attack. No longer is there now a small patch confined to the tonsil, or to a small part of the pharyngeal wall or soft palate. The natural guardians of the child have slept and the insidious enemy is in full possession. A dense dirty-yellow and sometimes disintegrating exudation is found closely attached to the natural tissues in some places, and in others hanging in loose shreds, while the naso-pharynx is filled with detached portions of membrane, retained mucus, and sometimes blood, and poison from this septic hot-bed is being rapidly absorbed and carried to the most remote parts of the little frame. Each of these classes of cases demands special and distinct local management.

Let us consider the first class, where the membrane is yet small in extent and of recent formation. Can we close the portals of the absorbents and render the existing local focus of disease inert? After experimenting with many formulæ, I have for several years renewed my confidence in the mixture of equal parts of glycerin and tincture of chloride of iron. The more fashionable and really excellent practice of using bichloride of mercury provides for antisepsis, but not for the equally important matter of astringency. But little manipulation is needed in these early cases. A cotton-covered probe is by far the best instrument, and with it the solution is not merely brushed over, but pressed against, the point of attack. There is no necessity of hurting the child if care is taken, but, on the other hand, I retain a vivid picture of the good old doctor, conscientiously bound to do something, his spectacles awry, plunging a "swab" at random down the throat of a kicking child, or through the clinched teeth, scraping the mucous membrane from the roof of the mouth by the good help of the ubiquitous tablespoon. By proper tact the application may be made easily, and, if it is repeated frequently—*i. e.*, every two hours—its efficiency will soon be demonstrated.

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* Read before the American Laryngological Association, at its ninth annual congress.

In the more advanced class of cases much more than this is needed. The extent of false membrane is greater, it is more difficult to reach, and the upper respiratory passages are obstructed. First, all of the detached membrane and *débris* should be removed by the syringe, and there is no better method of doing this than that described by Dr. Jacobi in the discussion following Dr. Billington's able paper on "Local Treatment in Diphtheria" ("Medical Record," April 9, 1887). A tepid but weak solution of common salt is an effective cleansing agent, after which a spray of bichloride-of-mercury solution can be used. The spray should be used warm, and to protect the nostril I often pass over the end of the spray-tubes a small piece of rubber-tubing and roll it up, so as to fit the nostril fairly well. There is no use in attempting to employ the more direct and potent applications by means of the probe in these cases. Many other agents have been used by spray and inhalation or insufflation, such as carbolic acid, lime-water, weak solutions of iron, etc. These are useful, but time forbids speaking of all.

When there is great irritation from laryngeal involvement—if the exudation is not too great—the vapor from slaking lime often gives relief.

I should greatly exceed my limit of time did I attempt to discuss the relative value of tracheotomy and intubation. The opportunity is given, however, to call attention again to what I believe to be an important addition to the ordinary procedure in tracheotomy—*i. e.*, to fill the larynx above the artificial opening with a pledget of cotton or small sponge saturated with an antiseptic solution, to prevent, if possible, the extent of the local disease by continuity of surface.

Let me repeat these thoughts: 1. Diphtheria is in its incipiency a local disease. 2. Local treatment is important, an aid to, but never a substitute for, the careful general medication and care. 3. The exact means used in local treatment may not be important, but the end to be accomplished is the speedy sterilizing and disintegration of the diphtheritic exudation, without injury to the adjacent tissues. 4. The local treatment must be conducted promptly, persistently, and carefully.

2830 Locust Street.

IMPETIGO CONTAGIOSA.*

By GEORGE THOMAS JACKSON, M. D.,
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A right understanding of this disease is important, because, if recognized, its treatment is simple and its cure rapid. A proper diagnosis of its bullous form will enable the physician to give a good prognosis where otherwise he would regard the case as one of pemphigus, and therefore would be compelled to make a more or less grave one. Though the disease has been recognized for some time, and has been brought before the medical profession in its journals and societies, errors in diagnosis are not infrequently made. Let this be my excuse for taking up your time tonight with this comparatively insignificant affection.

By the term "impetigo" is now most often meant a disease with pustular lesions, just as we use the term "lichen" to indicate one with papular lesions. In so far the term impetigo contagiosa is justified, since it is a pustular disease. But it is not so from the beginning, for the primary lesion is a vesicle the contents of which soon become purulent. Vesico-pustules, then, are the characteristic lesions of the disease, and in the vast majority of cases they will be the only ones present. They are of various sizes, but average that of a split pea. They are at first surrounded, in well-marked cases, with a red halo, which soon fades. They tend to increase slowly in size, and sometimes assume grotesque shapes. They are not fully distended, but flaccid, and not infrequently upon the hands will bear a strong resemblance to a burn of the second degree. If the covers of the vesicles or small bullæ are not disturbed, their contents in a few days will dry up, and the vesico-pustule will change into a straw-yellow granular crust, which is placed superficially upon the skin with its edge somewhat detached, and, it may be, turned up. In fact, it looks "stuck on." When the crust is removed or falls of itself, there is exposed an erythematous spot, which in a short time will disappear and leave no trace of its existence. If the vesicles are torn by scratching, or if by any other means their covers are removed, we shall find very superficial losses of substance—a moist surface covered with a slight purulent secretion. Even this disappears and leaves no trace, passing through the erythematous stage in its course to recovery. Such are the appearances presented in the majority of cases.

Besides this usual and typical form we meet with another and rarer variety, in which, instead of vesico-pustules, there are large bullæ. These are sometimes several inches in their long diameter, of irregular oval shape, not fully distended with fluid, and sometimes showing a slight depression in their centers. Their contents are at first serous, but soon become sero-purulent. They seem to be longer preserved than the vesicles, but otherwise run the same course. At first they have a slight zone of redness about them, but this soon disappears. They either are formed by two or more vesico-pustules running together, or spring up of themselves. They may attain their full size at once, or increase slowly. Rarely do they exist alone; generally the typical vesico-pustules will be found in their neighborhood or elsewhere on the body. It is this bullous form that is liable to be mistaken for pemphigus.

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Impetigo contagiosa is located principally upon the face, most often on the chin, and on the hands; it may also occur upon the scalp, legs, and trunk, especially in infants. According to my experience, the bullous form is most often seen upon the trunk. The lesions of both varieties are discrete; exceptionally two or more may run together. They are superficial, rarely very numerous, and tend to break out in crops. The bullous lesions are generally widely separated from one another. The outbreak of the disease may be preceded or accompanied by slight fever or some constitutional disturbance. My notes of sixteen cases contain no mention of any general disorder, so in them it must have been slight or wanting.

Ætiology.—The disease is comparatively rare, or at least it seldom comes under the notice of the dermatologist. Thus, the statistics of the American Dermatological Association for 1886 show but 91 cases in 14,984. During the last two years I have met with it only 16 times in about 2,200 dispensary and hospital cases. It is, as its name indicates, very contagious, and often occurs in epidemics. When one case is met with in dispensary service, several more may be expected in children of the same family or neighborhood. It is readily inoculable both on the subject of the disease and on others. Not infrequently we see a mother or other attendant of a child with the characteristic lesions of impetigo contagiosa upon the arms, derived from carrying the child suffering with the same disorder. What the contagious element may be is not yet determined with certainty, though various investigators have described several parasites as the cause of the disease. We know that all pus is under certain circumstances inoculable, and hence it has been maintained that there is no such disease, properly speaking, as contagious impetigo. But when we succeed in inoculating from an ordinary impetigo pustule, we próduce an ordinary impetigo pustule, not the characteristic vesico-pustule of impetigo contagiosa. It has been stated by some authorities that the disease is due to lice on the head. In some cases phtheiriasis capitis may be present, because both diseases occur with special frequence in children of the poor. In my own experience no such relationship could be traced. A number of cases have been reported of the occurrence of contagious impetigo shortly after the fall of vaccine crusts, and thus has been suggested the possible connection between impetigo and vaccinia.

It is more frequent in the warm months than in the cold. Thus, of my sixteen cases, one occurred in May, three in June, one in July, three in August, and five in September—thirteen in all. Children furnish the vast majority of the cases. My oldest patient was ten years of age, though I have seen the disease in adults from contact with children under their care. The duration of the disease is short, rarely more than a few weeks. Two months is the longest duration I have met with before the child was presented for treatment.

Diagnosis.—Impetigo contagiosa is diagnosticated by the presence of discrete, partially distended vesico-pustules, which are located upon the exposed parts—head, face, and hands—in most cases; these are sometimes grouped, run an acute course, and dry up into straw-yellow "stuck-on" crusts. It is sometimes preceded by slight constitutional disturbances, and accompanied by a slight amount of itching. It must be differentiated from simple impetigo, pustular eczema, varicella, scabies, pemphigus, and possibly ecthyma.

The lesions of simple impetigo are pustules from the start, while those of impetigo contagiosa are first vesicles and then vesico-pustules. The pustules of impetigo are prominently raised, and run no definite course. The vesico-pustules of impetigo contagiosa are flattened, and run a rather definite course. The crusts of impetigo are generally greenish, while those of the contagious form are yellowish. Impetigo is not so readily inoculable as impetigo contagiosa, and is much more widely disseminated, as a rule. Simple impetigo is a deeper process than the contagious form.

Pustular eczema is often itchy; its pustules tend to break down quickly, run together, and form large patches, which soon become covered with a greenish or blackish crust. These phenomena are entirely foreign to impetigo contagiosa. Eczema does not present vesico-pustules nor bullæ, as a rule, and shows slight tendency to spontaneous recovery.

Varicella is an acute contagious disease, with constitutional symptoms in most cases. Its vesicles are smaller than those of impetigo contagiosa, and they run a definite course peculiar to themselves. They are widely distributed over the whole surface, usually appear first on the trunk, sometimes occur upon the fauces, and not infrequently leave pitted scars. Contagious impetigo is in most cases limited to the exposed parts, it never occurs upon the fauces, and its lesions leave no trace. The crusts of varicella are small, while those of contagious impetigo are large.

The diagnosis from scabies offers little difficulty. In fact, the location of both diseases upon the back of the hands is their strongest point of resemblance. When we bear in mind that scabies is very itchy, that it occurs usually as a copious eruption upon the hands, wrists, and forearms, about the umbilicus, on the nipples of females and the genitals of males, that scratched papules and pustular lesions are more characteristic of it than vesicles, and that it presents the pathognomonic furrows, we should not confound it with impetigo contagiosa, which has none of these symptoms. Further, impetigo will, in almost all cases, occur upon the face at the same time with the hands, and that location is very rarely attacked by the itch mite.

The diagnosis from pemphigus is the most important one to be made, for the reasons stated in the first part of this paper. Nor is the distinction between the two diseases by any means always easy. The occurrence of the bullous form of contagious impetigo is so rare that it is no wonder it is mistaken for pemphigus. Indeed, it is probable that not a few of the cases reported as acute pemphigus in children, which possessed apparent contagious qualities, were instances of this bullous form of impetigo. I have had opportunity to observe but four well-developed cases of the bullous form of this disease. Three of these occurred at the Nursery and Child's Hospital, some four years ago, in the service of your chairman and my friend, Dr. E. L. Partridge, who kindly asked me to look at them. In these cases the upper part of the chest and the neck were chiefly affected; the subjects were all infants; and a focus of contagion was ready at hand in the person of a fourth infant, who had well-marked impetigo contagiosa. The fourth case I saw recently at the Roosevelt Hospital, in the out-patient service, through the kindness of my friend, Dr. W. T. Dawson. In this case the trunk of the infant had some half a dozen bullæ upon it, and the diagnosis would have been difficult if it were not that an older sister and brother presented symptoms characteristic of impetigo contagiosa. I cite these cases to show that when we meet with an acute bullous eruption in children we must always think of the possibility of impetigo contagiosa, and seek for a focus of contagion. The diagnosis between the two diseases can scarcely be made with certainty by the appearances of the bullæ alone; we must also take into consideration the general course of the disease. The differential diagnosis may be given as follows:

Pemphigus.	Impetigo Contagiosa (Bullous form).
1. Occurs chiefly in adults.	1. Occurs chiefly in children.
2. No source of contagion can be found.	2. A source of contagion can usually be found.
3. No particular sites of preference; if anything, it is most frequent on the extremities.	3. Met with most often upon the trunk; sometimes it may occur on the face, hands, or extremities.
4. Chronic in its course; marked by frequent relapses; may return from year to year.	4. Acute in its course, rarely lasting more than a few weeks.
5. Bullæ are fully distended with a clear fluid, so that their covers appear tense. They often spring up out of the sound skin without areola.	5. Bullæ not fully distended, but flaccid, and contain sero-purulent fluid. They have a well-marked red halo while slowly attaining their full size. Characteristic vesico-pustules are generally present elsewhere at the same time.
6. Lesions often occur in great numbers, so as to cover the whole body, and at times are pruriginous.	6. Lesions, few in number, do not involve the whole body, and itch but little, if at all.
7. Disease obstinate to treatment, and prognosis usually grave.	7. Disease yields readily to treatment; prognosis uniformly good.

Ecthyma should not be mistaken for impetigo contagiosa. It occurs in broken-down subjects, affects by preference the lower extremities, is seen most often in adults, and its lesions are deep pustules, which are highly inflammatory and painful. It is non-contagious, and inoculable with difficulty. These symptoms will sufficiently distinguish the two diseases.

Prognosis.—The prognosis of impetigo contagiosa is always good; so readily is it cured that the patients seldom present themselves a third time at the dispensary.

Treatment.—The treatment of the usual form is to direct the affected parts to be scrubbed with warm water and soap, and covered with a 5-per-cent. carbolized vaseline, or with oxide-of-zinc ointment with carbolic acid in the same strength. If there is a good deal of crusting, the crusts may readily be removed by soaking them with oil or hot water, after which the applications mentioned may be made, or a very mild mercurial ointment used. In the bullous form it is well to prick the bullæ at their most dependent part, and let the fluid escape, after which the lesions may be treated as just indicated.

14 East Thirty-first Street.

MALARIA IN CHILDREN.*

By EMMETT D. PAGE, M. D.,

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The class of patients to which I refer in this paper are those of the poor people, and as they pass before my mind and I see how poorly they are clad, fed, and washed, the wonder to me is not that they are ill, but that they are alive at all, and leads one to ask why it is that human beings can so far forget that they are human. Even the domestic animals of these families—which, by the way, are scarcely less numerous than the children—will have about them a cleaner, brighter, and more thrifty look than the children. Children, then, with such environments are weakly and stand with open arms inviting all sorts of diseases, to some of which they fall an easy prey. Such, also, I believe are predisposed to malarial attacks, and I have often wondered why it was that death from this source did not prevail among children so vitiated. On the contrary, however, I have never seen a death in a child that I attributed primarily to malaria. From cases seen, I judge it a rare thing in this climate. In the malarial districts of the tropics the death of children from this cause is not at all infrequent.

Of a little over two thousand cases treated by me during the last two and a half years at the College Dispensary, I find about five per cent. suffering from malaria. This convinces me of its prevalence among children. Usually these cases can be traced to those districts skirting the bay or in the vicinity of Gowanus Canal, regions known to abound in malaria. Two or three patients have come to me from the eastern part of the city, and a few from the more healthy parts. These latter, however, gave the history of previous residence in a malarious district, and were undoubtedly tainted with the disease before moving, and owed their attack to such exposure. The stronger of this class of children are not exempt from malarial attacks, but, on the whole, respond to treatment quicker than the weaker ones; especially are they restored to their usual health after the more marked symptoms, fever, etc., have disappeared.

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Some maintain that children and old people enjoy comparative immunity from this disease, but I believe there are more children living in malarious districts who suffer from this than is credited, from the very fact that its course is more ambiguous than in the adult, and a more careful study of the cases would prove the statement. I believe that many of the long-standing digestive troubles to which the physician's attention may be called are primarily due to this, while the more marked symptoms are wanting. This is a latent type, yet none the less malarial.

The quotidian and tertian are the prevailing types. One case presented itself that had a good week followed by a poor one, and so on, for three to four weeks. Flint maintains that in children the type is almost uniformly quotidian. I have found many tertian also.

The manner of invasion is not so clearly defined as in the adult, and differs widely from it. In place of the usual chill we have symptoms of nervous depression, sometimes convulsions. In some cases even these are wanting, and the fever is the main thing noticeable. I have found both varieties occurring in the morning as well as the latter part of the day, more of the quotidian in the morning, however. The afternoon attacks are more frequently at from four to six o'clock than at any other hour, extending up to ten o'clock or later. There have been a few cases with both morning and afternoon attacks.

The second stage is the prominent one, and is the longest of any. The fever is high, as in the adult, and is spoken of as a "burning fever" by the mothers. A temperature of 105° F. or more is probably not at all infrequent.

The third stage is not marked by such profuse sweating as in the adult. It is usually scanty, cold, and clammy, and entirely wanting ofttimes. The whole course is marked by a continuous course of malaise, and sometimes by constant fever.

The spring and autumn are the seasons in which the cases occur. Scarcely a case is noticed in the summer. More cases occur in the spring than in the autumn.

One patient, a light, fair child, now five years and a half old, has had attacks spring and autumn for the last two years. These attacks are of from three to five weeks' duration, and are noted for their general malaise rather than the severer symptoms. There is only a moderate amount of fever late in the day, with slight, cold perspiration, anorexia, coated tongue, and marked anæmia. From its regular occurrence and obstinacy, it has proved of special clinical interest.

The average duration of these attacks is from a week to ten days, followed by a period of convalescence fully as long or longer. No special difference is noticed in the full time of the different types, save that the period up to convalescence in the quotidian may be shorter.

The prevailing symptoms are anorexia, malaise, frequent constipation, coated tongue, sweating, and pyrexia. The marked anæmia following is one of the most common and prominent of all the features of this disease in children. It exceeds the anæmia of adults recovering from the same trouble. Only four or five per cent. of these patients were jaundiced, and none of the cases proved obstinate. Twenty per cent. of the patients had bronchitis due to the malaria. This seemed the most frequent of any of the complications save the anæmia, and occurred most in those having the cachexia.

I wish I might offer something new as to lines of treatment. The plans followed have been to relieve constipation first. The mild chloride of mercury in small, oft-repeated doses, followed by a saline, has been used most. This has been followed by quinine during the continuance of the fever. In cases where the fever was looked for at a certain hour the quinine has been given in three doses at two-hour intervals, the last dose two hours before the expected fever. Where the fever was more of a constant nature the quinine has been given at equal intervals four times daily, in either case continued till the fever abated. Fifteen grains in a three-ounce prescription has been used most; occasionally twenty grains; of this a drachm has been the dose.

In the stage following the fever Fowler's solution has proved itself far superior to quinine. Quinine by inunction was used only once, in the case of a sensitive stomach. The tincture of the chloride of iron for the subsequent anæmia proved efficacious. In the cases of bronchitis, quinine was combined with a cough mixture, and with much better results than when omitted. Nux vomica with the bitter tinctures proved also a good after-tonic.

On the whole, I find the cases yield much more readily to treatment than in the adult.

THE RATIONAL TREATMENT OF HYSTERIA.

By LOUISE FISKE-BRYSON, M. D.

To treat hysteria with any degree of success it is necessary to recognize it as an entity, and to understand as far as possible what kind of an entity it is. Hysteria is a real, tangible thing that affects men, women, and children. Animals also at times present hysterical manifestations. Overwork, no work, or irritating work are some of its causes, as well as protracted strain—such as grief, financial embarrassment, or excesses. An erroneous system of education produces it in children, whether the educational scheme be lax and frivolous in kind, allowing an uncontrolled play of every impression, or despotic, so as to interfere with all independent manifestations.

Hysteria is not dependent upon any organ or set of organs. Frequent or severe local irritation in any part of the body may act as a cause, such as ovarian and uterine diseases, the bite of a dog, a tumor in the brain, a nasal polypus, or some foreign body in the eye. It may be an expression of the tubercular or scrofulous diathesis, or of some morbid state of the blood such as gives rise to anæmia and chlorosis. Any mode of living that exhausts the mind or body, thereby weakening the nervous system, prepares the way for hysteria in those unfortunate beings who are predisposed to it. Even stout, hardy workmen are at times susceptible to its influence. In men hysteria may take almost any form that it shows in women. With them it lasts longer than in women, and the symptoms are more troublesome as a rule.

Wherever found and however produced, hysteria may be defined as a functional disorder of any department of the nervous system. The cerebro-spinal axis is quickly involved, giving rise to special mental symptoms, together with motor, sensory, vaso-motor, or visceral disorders, relating in varying degree to the psychical conditions that are present. There are abnormal ideation, emotional exaltation, perversion of reflexes and sensation, and complete or partial paralysis of the will. As a mechanism, the nervous system is as perfect as ever. The failure is one of dynamics.

The first thing in the way of treatment is to send new impressions to the brain. It is a foregone conclusion that the environment is wrong. Thus it becomes the physician's duty "to break up the tiresome old vault of heaven into new forms." By degrees the whole plan of life must be changed. Mechanical disturbances should be corrected at once. Properly adjusted glasses, the reposition of the uterus, or a high sole to raise a short leg, have sometimes proved curative measures. Well-fitting garments of appropriate texture and style are essential to the hysterical patient. "He that hath not strong nerves must have a good coat." Sunshine, fresh air, systematic occupation, the liberal use of sponge-baths, early hours, amusement that is really recreation, regular exercise, and a nutritious diet adapted to each particular case, are the chief therapeutic agents in the rational treatment of hysteria.

The medical treatment is about what it always has been. Every hysterical patient is a law unto himself, and should be studied as a unique specimen. Whenever melancholy is persistent or profound, small doses of opium or morphine overcome it, as a usual thing, in a surprisingly short time, and make it possible for the sufferer to eat, sleep, and bear with equanimity the sounds of the rude world. Overfeeding is in this case also indicated. Broth, gruel, and cream, at some stated hour between meals and the last thing at night before going to bed, are means to this end. Cayenne pepper at each meal and cod-liver oil directly after, help wonderfully. Little whims in the way of food are not to be lightly disregarded. Sometimes the patient's stomach is right and the books are wrong.

The treatment of hysteria is not so much a matter of drugs as of mental, moral, and social management. The physician, whether man or woman, must have a keen appreciation of the patient's own feelings, a firm mental and spoken assurance that the disease is a real thing and no fancy, a strenuous desire to help these people in their dire weakness and set them right when wrong, a manner that is calm, cheerful, and sympathetic, together with a strong will, infinite patience, and ready tact. The most minute details of daily life have to be arranged by the medical adviser, as the patient's will is paralyzed more or less completely. For convenience, the arrangement of those details that constitute the rational treatment of hysteria may be thus classified in the order of their importance:

Exercise.

Active.	*Passive.*
Housework.	Electricity.
Gymnastics.	Massage.
Walking.	Riding.
Rowing.	Driving.
Swimming.	
Out-door sports.	
Reading aloud.	

Occupation.—Some vital interest outside the tread-mill of daily home life, as specialized philanthropy, the study of some branch of science or art, at regular hours away from home, or a hobby, such as forming a collection of stamps, coins, minerals, etc. Sewing to any extent is highly injurious. At the same time, if the woman under treatment can not sew at all, lessons in artistic embroidery will certainly send new impressions to the brain and prove of disciplinary value. Piano practice should be interdicted. The position is bad, and the monotonous vibration of "exercises" a direct source of nervous irritation. The *pianoforte* as a factor in hysteria is beyond the limits of this paper, yet it is what journalists call a juicy subject. Shopping is another occupation that must be given up. Fortunately, there are such things as friends and professional buyers. All places where the air is bad must be carefully avoided, as stores, churches, halls, and theatres.

Diet can be infinitely varied according to circumstances. Milk, eggs, cereals, fresh vegetables and fruits, and their combinations, render it almost unnecessary to eat twice of the same dish during the year. Little or no meat is best. Sometimes a strict Salisbury diet is better. Alcoholic and malt liquors frequently do harm, yet claret, port, and Burgundy have been known to do great good.

Clothing should be light and warm, the weight suspended from the shoulders, loosely fitting, and costly as the purse can buy.

Sea-bathing combines many elements of cure, such as sunshine, fresh air, active and passive exercise, and recreation. It is usually well borne when not too frequently indulged in. One great advantage is that it takes the patient away from home.

Recreation must be merry and non-musical. There is a sense of isolation about music peculiarly undesirable for the class of patients under consideration. Providing healthful amusement will tax the physician's ingenuity to the utmost, especially as Americans do not know how to amuse themselves, and have not yet learned what forms of recreation are best suited to counteract the effects of wear and tear in this climate. Married women who practice absolute continence should be instructed that this is not the way to live, and that such a mode of life is positively injurious to themselves. An appeal to their sense of honor and moral responsibility will do more than many preachments.

Hysteria among the well-to-do has alone been considered. In the humbler walks of life the case at once assumes the proportions of a social problem, and the physician is immediately called upon to practice the best of all the virtues—namely, making the best of things.

15 West Thirty-fourth Street.

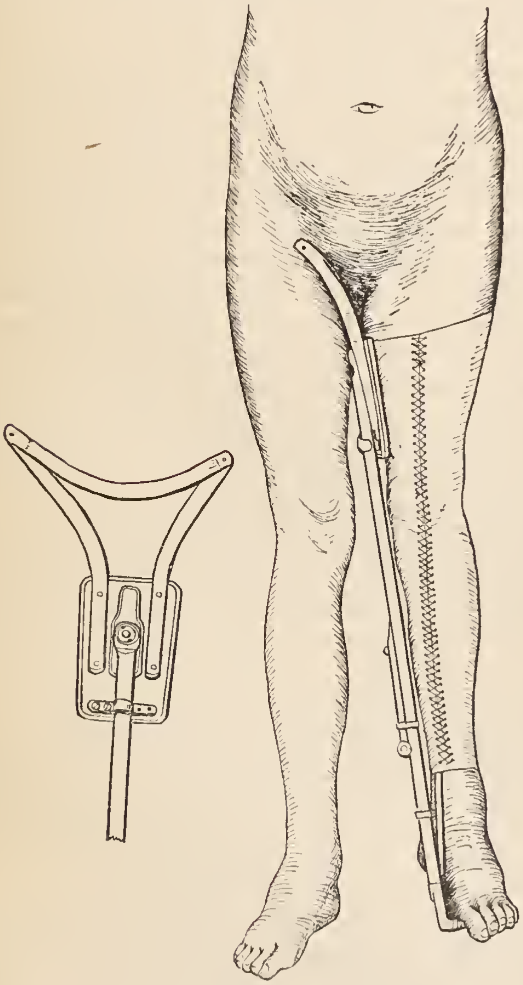
A NEW METHOD FOR OVERCOMING ADDUCTION AT THE HIP JOINT.*

By HENRY LING TAYLOR, M. D.

Adduction of the thigh from reflex muscular spasm in the acute or progressive stages of hip disease readily yields to the protective traction which is indicated at that period, and which can be adequately furnished by the long hip-splint.

Persistent adduction in the late stages, or after the cure of the disease, whether from the neglect of proper mechanical treatment in the beginning, from a subluxation of the head of the femur due to erosions, or from other causes, is very common, very serious as regards the patient's comfort and power of easy locomotion, and often very intractable.

To overcome such deformities, as well as those where a persistent adduction had resulted from unreduced luxations of the hip, old fractures of the neck, etc., and to maintain a correct position, Dr. C. Fayette Taylor devised, and has used for about twelve years, various forms of apparatus, which exerted a direct abducting force by means of a carefully fitted crutch bearing in the opposite ischial fold. This abducting arm or crutch was jointed to the knee-plate of a stiff or jointed apparatus, and was operated by a key and ratchet, or as a toggle-joint. These devices, being found vastly more efficient, superseded entirely the *abduction screw*, and proved very satisfactory.



About three years ago Dr. C. Fayette Taylor adopted the plan of using his long hip-splint on the inside of the adducted leg and bearing above in the opposite ischial region, thereby securing great force and directness of action. We have used this plan in appropriate cases ever since, with very great satisfaction.

The apparatus consists in the shank and side-plate of the long hip-splint which we use, ending above in properly shaped spreading bars carrying a perineal strap adjusted to the groin opposite to the adducted thigh, as shown in the cut, which also gives the detail of the upper part, viewed from the left side.

The apparatus is applied to the inside of the adducted limb, and fastened by a strap and buckles to adhesive plasters attached to the leg, as in cases of hip disease.

Screwing out the apparatus by the key produces a direct and well-nigh irresistible abducting force, which is easily borne and perfectly under control.

This apparatus is to be worn in bed, with the leg in a sling and extra weight attached; a few days to a few weeks are enough to overcome the adduction even in obstinate cases.

When the leg is sufficiently abducted, a retaining apparatus with abduction crutch, jointed to the knee-plate, is to be worn, when necessary, to maintain the correct position. We could relate a considerable number of cases, but one will suffice to illustrate the practical value of the procedure.

A gentleman reported with an adduction of the right leg of thirty years' standing, from an injury to the hip.

When seen the adduction amounted to about 20°, and could not be diminished by manual force; together with the actual shortening it necessitated an extra sole three inches and three quarters in thickness.

The adduction was completely overcome in less than two weeks, the legs restored to vertical parallelism, and the sole reduced to one inch and three quarters, which represented the actual shortening. Progression was rendered very much easier, and the patient did not complain of pain or fatigue as he had done. The position was easily maintained by a retaining apparatus.

In this case the deformity was reduced by a less perfect apparatus than the one shown.

With these improved methods the distressing and disabling deformity of crural adduction has ceased to be, in the large majority of cases, the formidable matter that it has been, and we believe that where proper attention can be secured permanent adduction need never occur, and that when this condition has supervened it can be safely and quickly removed with scarcely any discomfort to the patient, and without resort to the knife in nearly all conditions except bony ankylosis.

201 West Fifty-fourth Street.

The New York Society for the Relief of Widows and Orphans of Medical Men will hold its forty-fifth annual meeting at the Academy of Medicine, on Wednesday evening, the 23d inst.

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* Apparatus shown at the meeting of the American Orthopædic Association, New York, June 16, 1887.

ON THE QUESTION OF HOW SHALL THE INTERNAL ILIAC ARTERY BE LIGATURED IN GENERAL?

AND ON LIGATION OF THE INTERNAL ILIAC FOR SPONTANEOUS GLUTEAL AND SCIATIC ANEURYSMS IN PARTICULAR.

*WITH REPORT AND STUDY OF CASES.**

By W. LOCKE CHEW, B. S., M. D.,
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Every question relating to surgical research should have thorough investigation, and should be viewed from every various standpoint, especially where life is the forfeit in case of lack of judgment or neglect of detail. On reviewing the literature of ligation of the internal iliac one is impressed with the great gravity of the operation from statistics already collected, there being, according to Ashhurst, only 27 cases reported, with 19 deaths and 8 recoveries, or a mortality of 70·37 per cent., and for aneurysm of its branches alone of about 46 per cent. This is alarming, indeed, when we remember that the whole mortality of ligature of the external iliac is about 34 per cent., and in cases of aneurysm of its branches as low even as 28 per cent. Now add to these the cases of J. K. Rodgers and M. Poncet, ending fatally, then for operations on the internal iliac we see a mortality of 72·41 per cent. Understanding, then, the great fatality of ligature of the internal iliac and the freedom from such grave mortality in larger trunks, one must conclude that wrong methods are employed, surgeons have erred in judgment or in practice, and is forced to the inquiry, What are the causes of this high death-rate?

Foremost among these causes may be mentioned:

1. Secondary hæmorrhage, which it appears is due to three causes measurably preventable: (*a*) In the anatomy of the artery, as is shown by a study of the statistics, we find a source of danger, the artery often being short and stout, at the same time giving off numerous small branches. Here, however, it is desired to impress the fact that this alone is not enough to account for all these hæmorrhages, and it is found that the (*b*) great danger lies in long-continued suppurations about the site of the operation, the hæmorrhage occurring forty to sixty to ninety days after the operation. Again, too, (*c*) the inaccurate application of the ligature, from selecting wrong points on the trunk and including other structures in the cord, is a cause of fatal bleeding.

2. Another reason for the high death-rate is in the wounding of adjacent structures, such as the vein, ureter, peritonæum, nerves, etc.

3. The ligaturing of these same structures is another frequent cause of death.

4. Peritonitis from stripping and wounding the peritonæum is another.

5. Again, the purulent œdema of the subperitoneal connective tissue, as described by Pirogoff.

6. Rupture of these purulent collections into the pelvic cavity, giving rise to peritonitis.

7. Pelvic cellulitis from contusing connective tissue and adjacent structures is still another cause.

These are the dangers to be feared from the "stripping method"—that cause the 72·41 death-rate. The operation is the cause of death. Death is produced by causes other than the ligature, which of itself is harmless. Then we conclude:

Proposition 1.—*That in the "stripping method" we realize all the dangers of placing ligatures on the internal iliac artery, and suggest that it be avoided in the future, as giving, in the hands of brilliant surgeons, a death per cent. of 72·41, one that we realize is too grave.*

Arriving, then, at dangers, faults, and defects of the "stripping" plan and the harmlessness of the ligature, we next must determine by what better method we can get at the artery. In an attempt to solve this we must go to another field of surgery, for the student who reviews a subject for what is in that subject alone, narrows his reasons to limited possibilities. It is only when facts acquired in one channel of research are applied to kindred subjects and related diseases that, by broadening the plane of facts, the judgment can be matured for the deduction of true medical and surgical procedures. After a fairly thorough review of the literature of abdominal surgery, studying the bad features and causes of death on the one hand and the successes and restoration of health on the other, it was judged that the chances were largely in favor of the patient if—

1. An abdominal section was resorted to, for it has been shown that laparotomies may be done with a mortality of 0.71 per cent., and this in cases where there existed firmly organized adhesions, profuse suppuration, and extensive inflammations at the site of the operation, while in the application of the ligature none of these must or do exist; therefore, with the same operator, the placing of a ligature on the internal iliac artery is a less grave operation than removal of the uterine appendages, as far as suppurations, exudation, inflammations, septicæmia, oozing, collections of poisonous fluids in the pelvis, etc., are concerned, and the ligature of itself is at the same time no more hurtful than in other methods of placing it.

2. Further, in a study of abdominal exploration it was judged best to open the abdomen by a short incision, and to disturb the contents of the cavity the least amount possible with the accomplishment of our purpose, for the proportion of deaths to recoveries in the whole number of cases is in exact ratio to the (*a*) length of the incision, (*b*) length of time consumed in the operation, (*c*) amount of disturbance of the abdominal contents, (*d*) the prevention of oozing, (*e*) the thoroughness of the removal of fluids from the cavity and the prevention of their reaccumulation, and (*f*) the removal and exposure of the tubular viscera to hurtful influences, tetanus being excepted.

Proposition 2.—*Hence it is suggested that in an abdominal section, by the short incision, going directly on the artery, without withdrawal of the abdominal contents (an operation with a presumable mortality of less than 0·71 per cent.), we have offered an escape from the horrible results of the "stripping method," with its mortality of 72·41 per cent., and this in the hands of renowned surgeons. This appears to be the best operation in general for ligaturing the internal iliac artery.*

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* Read before the Alabama Surgical and Gynæcological Association, October 13, 1887. Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

Now, having a case of spontaneous aneurysm of a branch of the internal iliac artery, how should we treat it? These forms of aneurysm are invariably fatal if not treated. Statistics are not flattering in the least. Antyllus's and Anel's operations show a death-rate of 33 per cent. from opening the aneurysm and securing the bleeding arteries. Injection of the perchloride of iron gives a death-rate also of 33 per cent. Galvano-puncture has once proved fatal. It is a generally accepted surgical principle that in cases of aneurysm where other methods have failed, or are inapplicable, the Hunterian ligature is radical when applied to healthy trunks. The application of the principle places the aneurysm under the control of the surgeon, being radical and satisfactory, as is shown by actual experience. Dr. Hamilton, realizing this, recommended ligation of the internal iliac on Hunter's principle, making an incision parallel to Poupart's ligament, then stripping the peritonæum. In eleven cases thus treated we see six recoveries and five deaths, or a mortality of 45·46 per cent. In a study of these five fatal cases it will be seen that in no instance was this termination from the ligature directly, but from the above-mentioned causes wholly, dependent on the operation. Thus it is seen that in the treatment of gluteal and sciatic aneurysms there can be offered, from cases already gathered, not the slightest shadow of objection, but in reality these cases prove the great advantages of this method. This attitude of the Hunterian plan seems not to have been comprehended by Dr. Frederic S. Dennis in his study of them.

Proposition 3.—*Hence we recommend that the Hunterian principle should be employed in the treatment of spontaneous gluteal and sciatic aneurysms, as extending the greatest hope of radical and successful treatment.*

In a study of the following cases, where the Hunterian principles were used, the "stripping method" being rejected and laparotomy preferred, it is desired to show that their course bears out the foregoing proposition, and that the death in one of them (Dr. Dennis's) was not the result of defects of this principle, but of accidentally overlooked chronic renal disease excited to acute inflammation by the anæsthetic, and the needless removal and exposure of the abdominal contents, and that this fatal case should not be scored against the principles here advocated, as they were not the cause of death.

Case I. *Double Gluteal Aneurysm; Etherization; Laparotomy and Ligation of both Internal Iliac Arteries Simultaneously; Death from Suppression of Urine on the Fourth Day* (*Dr. Frederic S. Dennis, New York*).—I. McC., aged sixty, on the 5th of February, 1886, was admitted to St. Vincent's Hospital. Enjoyed good health till past three years when she suffered from pain along the right great sciatic nerve, unrelieved by medication. One year and a half later a throbbing, steadily increasing tumor appeared in right buttock, with no relief of pain. On admission, a large, tense, pulsating tumor occupied right buttock, having the thrill and bruit of aneurysmal tumors. Leg œdematous. Tumor of like character existed in left buttock, along the course of the gluteal artery, much smaller in size. Patient losing strength and flesh. Placed on good regimen till February 18th, when, after thorough antisepsis, washing, and shaving the abdomen before etherization, ether was administered and the abdomen opened by median incision extending from the umbilicus to the symphysis, bleeding being checked as the operation proceeded. The intestines were next withdrawn and swaddled in towels and elephant-ear flat sponges dipped in warm bichloride solution (1 to 5,000), which were constantly changed and renewed. The peritonæum and sheath were divided and a ligature of twisted catgut was applied to either internal iliac artery. Iodoform dusted on the incision, the intestines returned, the cavity dried, and the abdominal incision united by catgut and wire sutures. Dressing was of iodoform, superficial drains used, and thick aseptic dressing and binders applied. Etherization lasted thirty minutes. After an unsatisfactory course of restlessness, moaning, dry tongue, mild delirium, tympanites, and vomiting, the patient died on the fourth day, with acute albuminuria and suppression of urine.

Autopsy.—Primary union of abdominal incision. Little pus at the site of one ligature. Exudation of lymph. No peritonitis. Each internal iliac occluded by thrombi and the right sac filled with lamellæ of fibrin. A fusiform aneurysm of the left buttock was found occluded. "The kidneys showed a mild grade of diffuse parenchymatous nephritis. The suppression of urine was in all probability due to the acute congestion produced by ligation of the internal iliac arteries, and the condition was ingrafted upon a chronic disease of these organs."

Remarks.—1. I am inclined not to accept the theory that the ligature is so wholly to blame for this acute inflammatory action. (*a*) For it is worthy of recollection that ether has the property, when circulating in the blood, of causing renal disease in healthy organs. How great, therefore, the likelihood of lighting up acute inflammation in already diseased ones!—and I am of the opinion that it was the chief agent in this case. Again, too, (*b*) it is to be remembered that the peritoneal cavity is a lymph-sac absorbing rapidly substances on its surface, and that iodoform, consisting as it does of 95 per cent. of iodine, is capable of producing, when absorbed from dressings, most violent parenchymatous degenerations and acute renal inflammation, a fact observed by Taylor, Zeissl, Hoepfl, others, and myself.

2. It is doubtful, too, if any operation was warranted in one so old, where there was already existing chronic diffuse nephritis. And was it the best course to ligature the left internal iliac where there existed only a fusiform aneurysm, with the probability of death from other causes before this aneurysm would jeopardize life?

The next case done by a laparotomy was one occurring in my own practice, and will be given as printed in the "Alabama Med. and Surg. Journal," as quoted by Dr. Dennis:

Case II. *Spontaneous Gluteal Aneurysm diffused by Manipulation; Chloroform, Anæsthesia, Laparotomy, and Ligation of the Internal Iliac; Cure* (*by W. Locke Chew, M. D., Birmingham, Ala.*).—W. T. S., a negro, aged forty-six years, a native of Georgia; residence for fourteen years in north Alabama; by occupation an iron-ore workman; gives the history that seven months ago, while going rapidly up stairs, felt a sudden stitch in buttock and back part of thigh. This pain was very intense at times, but never wholly absent. For the past seven weeks has been unable to walk, and the past four has been confined to bed. About two months and a half ago noticed a marked swelling of right gluteal region, which "thumped as if my heart beat there." Dr. Cooper was called to see the case, and treated it only palliatively, suspecting the tumor to be aneurysmal. I was called to the case in consultation with Dr. Cooper on the morning of June 14, at 11.43 o'clock, and found the patient as follows: Right thigh flexed on abdomen and leg on thigh, adducted, and toes inverted, violent spasms of the muscles of the calf and foot, considerable spastic rigidity of same parts; less violent muscular spasms in the posterior portion of thigh; gluteal region of right hip very much distended, tense, and firm. Tumor as large as a fœtal head at sixth month. No increase in local warmth. On grasping tumor evenly with expanded hands and making gentle pressure, there was detected a very slight, indistinct, wavy expansion. Auscultation over tumor revealed an obscure bruit, but at the sacro-ischiatic notch and slightly lower a loud, grating bruit was noted. By pressure on the abdominal aorta both bruit and expansion could be readily stopped. Dr. Cooper here gave the history that the swelling had been circumscribed, and thought it probable that it had been ruptured the day before by manipulation at the hands of a friend he had invited to see it. The diagnosis being arrived at, nothing more was done than to order the patient's bowels thoroughly opened by salts and warm enemata, the patient thoroughly washed. and clean linen placed on him and the bed; the room, a new one, was rendered as neat as possible. It had been necessary to administer twelve grains of morphine sulphate in the preceding twenty-four hours to secure the least quiet. On the morning of June 15th, in the presence of Dr. Wheelan, Dr. Dozier, Dr. Duncan, Dr. Wyman, Dr. Shoemaker, and Dr. Drennan, Dr. Brice M. Hughes and myself assuming the case —which Dr. Cooper kindly proffered us—immediately proceeded to do a laparotomy, to secure the internal iliac artery for relief and cure of the aneurysm. The patient being anæsthetized, and the abdomen being shaved and thoroughly cleansed, the usual curved, lateral incision was made. The muscles and fascia having been divided carefully, at the inferior angle of the incison, the epigastric artery, displaced a very little to the right, was seen pulsating strongly, which was doubly ligated before section. The peritonæum was carefully divided on the finger as a director, and the hand passed into the abdomen. The arteries could be felt in their usual places pulsating strongly; trunks in good condition. That of the common iliac normal, while that of the internal iliac was about two inches long, the trunk large, and the walls in fine condition. The aneurysmal tumor did not extend into the pelvis. Such being the condition, we determined to place a strong silk ligature on the internal iliac. So violent were the efforts of the patient, and such the difficulty of manipulation within the cavity, that a few coils of intestines were taken out and swaddled in cloth saturated in a warm carbolized solution. While I exposed and guarded the parts, Dr. Hughes divided the arterial sheath, which I separated from the trunk as he passed the armed needle. The ligature was then tightened, and all present satisfied themselves that all blood-flow through the tumor was checked. The artery was then firmly ligated, and the peritonæum approximated over the ligature. The cavity was next thoroughly cleansed and closed by six deep silver-wire sutures, and six small, superficial catgut sutures. There were a few points in the divided muscles that gave us a little trouble from oozing, but this was controlled by warm water and torsion. The incision was dusted with iodoform, while adhesive strips to support suture, antiseptic cotton and binder, applied evenly, constituted the dressing.

Progress of the Case.—Morphine sulphate, in quarter-grain doses, was administered every four hours subcutaneously. Crushed ice with a little milk was allowed during the first week; patient kept in the dorsal-decubitous position strictly. The temperature on the evening of the operation reached 100·5°, but never again reached that point; after the evening of the fifth day it was absolutely normal; pulse ranged from 90 to 108. The incision united by adhesion throughout, and the dressing, which was removed on the sixth day, was perfectly clean except at a single point where there was a clot of dried blood as large as a split pea. Sutures removed on the ninth day, union firm. A free, natural movement of the bowel on the tenth day. A small abscess formed on the thirteenth day a little to the right of the incision, due to the hæmorrhage from the veins above mentioned, most probably; all pain immediately stopped in the tumor, and it has gradually diminished in size and tenseness. The condition of spastic rigidity never returned after recovery from the anæsthetic, nor did the muscular spasm; leg became freely movable after the tenth day. On the twentieth day tumor about one third original size; patient walking on crutches; free from pain; cured.

I preferred laparotomy to the method of stripping off the peritonæum for these reasons: (*a*) The difficulties of the operations, as stripping the peritonæum, avoiding adjacent structures, etc., are much lessened. (*b*) A more definite idea of the anatomy and length of the several arteries can be formed by laparotomy. (*c*) The point of election for the ligature can be with better judgment determined. (*d*) The ligature can be applied with much greater accuracy. (*e*) An accurate knowledge of the extension of the disease up the arterial trunk gained.—("Alabama Med. and Surg. Jour.")

Dr. Frederic S. Dennis, in commenting on this case, says: "In reviewing the history of this interesting case as it is given, it seems that the operator did not intend, before the operation, to do a laparotomy in the sense of removing the contents of the peritoneal cavity, as a preparatory step to the ligation of the internal iliac, but that this most important feature of the whole plan was an after-thought, or the result of an accident. . . . It is the intentional removal of the intestine by the median incision, for the purpose of fully exposing the pelvic vessels, that laparotomy is recommended as a preparatory step. . . . This friendly criticism which I have offered in no way detracts from the credit due the operator or to the successful issue of the operation, but it has been made only to impress clearly the fact that the great object of the laparotomy is to remove the contents of the peritoneal cavity, and thus enable the surgeon to ligate the vessel without incurring any risks so common by older incisions and older methods."

To these remarks there are grave objections, as the preparations had all been made for an abdominal section, as was stated in the report of the case. The incision, a short, curved, lateral one—a slight modification of the usual incision of Cooper—was made a little to the right of the artery, it being judged that the artery could be reached more easily by this lateral incision, as the point is fixed at which it is desirable to place the cord; and as in cholecystectomy or other operations on fixed anatomical points, so, too, here the best incision would be a lateral one, for (*a*) it enables the surgeon to go directly on the artery, showing its length, condition, and relations; and (*b*) this can be done without removal of the intestines, which is to be recommended. In the case just reported it would have been so performed except for the untimely struggles of the patient, who accidentally came from under the influence of chloroform as the sheath was being divided. To aid us, too, the incision thus made enables the surgeon (*c*) to roll the patient slightly to the opposite side, the intestines gravitating from the incision and artery; then, with one hand depressing them further, the artery can be exposed without the removal of the pelvic contents, and I hold this withdrawal wrong, as it exposes the patient to needless additional risks. Each did this operation independent of the other. Dr. Dennis has three months' priority in operation, and myself three months in publication. How great, too, was the difference in motives! Dr. Dennis's "great object" and "most important feature" was exposure of the vessels by removal of the intestines; exactly what I tried to prevent. My motives were to apply the Hunterian principles, at the same time avoiding the dangers and results of the "stripping method," reducing to a minimum the dangers of abdominal section, and acquire a clear knowledge of the anatomy and changes of the arterial trunk.

Case III. *Gluteal Aneurysm associated with Aneurysmal Varix; Etherization; Laparotomy; Ligation of the Left Internal Iliac Artery; Recovery* (*Dr. Frederic S. Dennis, New York*).—M. F., aged eighteen, admitted to St. Vincent's, August 20th. Family history good; no evidence of specific disease. Left buttock enlarged and painful for many years. Until past three weeks was able to work, but at that time buttock ulcerated, and, on being seated, great pain and throbbing was experienced. On admission, general health was good; muscular; complains of pain shooting down to the knee and of the throbbing. Upon gentle palpation, the blood is felt surging through the vessels, which showed that a communication exists between the artery and vein. With each systole of the heart an expansile pulsation is quite evident. Was put on potassium iodide, gr. xv, three times a day till September 8th, when, being etherized, the abdomen was opened aseptically by median incision from the umbilicus to within two inches of the pubes, afterward enlarged upward "some distance above the umbilicus." The intestines next withdrawn and swaddled in dressing saturated in warm, weak bichloride solution; catgut ligature placed on left internal iliac; iodoform dusted on incison; intestines returned; abdomen closed by deep and superficial sutures of catgut and three wire sutures; iodoform dusted and aseptic dressing applied. Next day suffered from dry tongue, tympanites, pain, and albuminous urine with 15 per cent. albumin. After this day made a good recovery; wound healing primarily; aneurysm and varix cured.

Remarks.—"This acute albuminuria was due to congestion of the kidney as a result of the ligation of the main trunk of the internal iliac." Was this the sole cause? I doubt it; for the statistics of ligation of the common iliac, after which we should expect more congestion of the kidney than in this case, show that, up to 1852, of 11 cases of ligature of the common iliac for aneurysm, 7 ended in recovery. "The 4 that died perished rather from the magnitude and extent of the disease than from the effects of the operation" (Erichsen). Again, too, in ligating the external iliac, through which in the adult more blood flows than through the internal iliac, how little do surgeons hesitate on account of albuminuria! I have failed to find a recorded death from this cause, where ether was not employed and the kidneys were not diseased.

To what, then, is it due? To combined causes. (*a*) Blood saturated with ether may produce acute inflammatory changes in healthy kidneys (Emmet); and in this instance aiding the action of the ether, we have—(*b*) The degenerative changes so liable to occur after long-continued administration of potassium iodide, for it is established that the circulation and elimination of this drug produce not only acute temporary albuminuria, but prominent degenerative changes and nephritis. (*c*) The iodoform dusted in the peritoneal cavity, too, was a cause of albuminuria, and is to be regarded as having significance in a clinical history. (*d*) Again, the congestion attendant on withdrawal of the tubular viscera (shock and chilling) was a probable exciting cause. And in one so young, with pliable capillaries, their rapid dilatation would relieve any congestion due from the ligature at once. It is not my desire, however, that this albuminuria shall be ignored entirely, but I wish to show that it is of no more importance in ligature of the internal iliac than of other large trunks, for it occurs after ligation of the carotid, subclavian, external iliac, both femorals, etc., following the administration of potassium iodide and anæsthesia by ether; therefore we conclude:

Proposition 4.—*That in the application of the Hunterian ligature the fear of producing albuminuria should not deter the surgeon in patients with healthy viscera from ligating the internal iliac, for this albuminuria occurs after ligation of any large trunk* (*carotid, subclavian, external iliac, and both femorals*), *and to reduce this danger to a minimum, where we have increased intra-vascular blood-pressure from the ligature, and there is a likelihood of pre-existing renal disease or any probable alteration in renal structure from medicines previously administered* (*KI*), *that ether should be discarded from surgical practice as especially dangerous, and chloroform be advised.*

All the cases found are reported, with the results.—J. K. Rodgers's from Erichsen, M. Poncet's from the "Annals of Surgery," Dr. Dennis's from the "Medical News," November 20, 1886, and my own from the "Alabama Med. and Surg. Journal," August 1, 1886.

Cases of Ligation of the Internal Iliac Artery. (Ashhurst.)

1. By the "Stripping Method."

No.	Operator.	Result.	No.	Operator.	Result.
1	Altmuller.......	Died.	17	A. B. Mott......	Died.
2	Auger..........	"	18	Oevcrent.......	"
3	Arendt.........	Recovered.	19	Porta..........	"
4	Atkinson.......	Died.	20	J. K. Rodgers...	"
5	Bigelow........	"	21	Stevens........	Recovered.
6	Cainflone.......	"	22	Syme	"
7	Coluzzi.........	"	23	Thomas........	Died.
8	Galozzi.........	Recovered.	24	Thompson... ..	"
9	Higginson......	Died.	25	Torrocchi.......	"
10	Kasinsky.......	Recovered.	26	Tripler.........	"
11	Kimball........	Died.	27	White.........	Recovered.
12	Laudi..........	"	28	Case in Bellevue Hospital referred to by Van Buren ...	Died.
13	McKee.........	"			
14	McLean........	"			
15	Morton.........	Recovered.			
16	Mott...........	"	29	M. Poncet......	"

2. By Laparotomy.

No.	Operator.	Anæsthetic.	Complications.	Result.
1	Fred. S. Dennis.	Ether.	Acute albuminuria.	Died.
2	W. Locke Chew.	Chloroform.	....	Recovered.
3	Fred. S. Dennis.	Ether.	Acute albuminuria.	"

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PECULIAR RHYTHMICAL FŒTAL MOVEMENTS.

In a recent number of the "Centralblatt für Gynäkologie," Dr. Mermann, of Mannheim, describes certain phenomena which, unfortunately, are of such a character, or rather are manifested under such surroundings, that it would be extremely difficult to follow up the subject and obtain a sufficient mass of evidence on which to form conclusions as to their import. This is shown by the infrequency of the recorded observations. One's attention would not be likely to be attracted to a case of the sort in the absence of some suggestion on the part of the patient herself, and most patients would say nothing about it. Still, it is a subject which may give rise to no little speculation.

A healthy woman, at the end of the seventh month of her first gestation, called the author's attention to a peculiar rhythmical movement which she had often noticed for hours at a time on the left side of the abdomen. He found the fœtal head presenting in the first position, and at a point opposite the middle of the back there was to be observed a short stroke or beat working from within outward in a perfectly regular manner, at intervals of from four to ten seconds. This continued from half an hour to an hour, and sometimes longer. Another case analogous to this is mentioned by the author. The diagnosis was clonic spasm of the fœtal diaphragm, and this was strengthened by the fact that the infants each had an attack of hiccough immediately after birth, which could readily be excited again by pressure with the hand upon the child's breast.

In the "Transactions of the Physico-medical Society of Würzburg," for 1885, Reubold published a report of a case which was almost identical with Mermann's. The woman was a primipara, twenty-two years of age, with thin abdominal walls, and the uterus contained a large quantity of amniotic fluid. Fœtal movements began quite early in gestation, and subsequently became very violent, and the parts of the fœtus could be felt distinctly on palpation. During the last four weeks of pregnancy the fœtal movements in the lower portion of the abdomen were unusually frequent, but less forcible than they had been, and were limited to a small area, in which they were manifested by alternate rising and falling of the thin uterine walls. On palpation, it seemed as if a fœtal hand or elbow were being moved. The movement was not to be mistaken for a contraction of the uterus or the abdominal muscles, for intestinal movements, or for pulsations of the funis or the fœtal heart. The separate strokes were two or three to the second, they were uniform in succession and strength, and they came in series of five or six or of ten or fifteen, with intervals of a few seconds. They differed entirely from those usually seen during gestation. Reubold cites Ahlfeld as referring to periodically recurring short strokes or beats on the part of the fœtus, almost rhythmical, usually lasting for a few minutes and perceptible to the woman several times in the course of the day. Both Ahlfeld and Reubold attributed these movements to swallowing or hiccoughing on the part of the fœtus, or possibly to its sucking its fingers. In this respect they are in accord with Mermann. What influence the temperament or the physical condition of the mother may have in determining these phenomena, as well as their significance with reference to the welfare of the fœtus, is left to conjecture or to further investigation.

IS DIPHTHERIA PRIMARILY A LOCAL OR A CONSTITUTIONAL DISEASE?

This is still one of the questions as to which evidence can be adduced in favor of either side. In a recent number of the "Memorabilien," Dr. C. Mettenheimer discusses it with great clearness and with a disposition singularly free from prejudice. What it is that constitutes a local or a general disease is not so easy of statement as appears at first thought. A local departure from the perfectly normal state finds its best expression in simple traumatism, but, if the injury affects some important part, it is not long before other parts are drawn into sympathetic derangement, and then the trouble loses more or less of its local character. Therefore, the importance of the part first affected must be taken into account, as well as the nature and extent of the injury, in determining whether the complete morbid condition is to be considered local or constitutional; a little abrasion of the mucous membrane of the stomach is attended with a number of serious general symptoms, while a great part of the common integument may be destroyed without any special disturbance of the economy at large. So far as this matter is concerned, however, the importance of an organ can not be gauged by physiological experiment; for example, the functions of the body seem to be carried on quite as well without the tonsils as with them, but, let the tonsils become severely inflamed, and the whole system suffers, as shown by the high fever, prostration, and restlessness.

Mettenheimer reviews his experience in the children's hospital at Schwerin. Patients with diphtheria, before it has been recognized as such, are frequently put into the wards occupied by other children suffering with cutaneous, scrofulous, and rhachitic affections. It is generally admitted that scrofulous children, especially those suffering with chronic bone abscesses, are very susceptible to the diphtheritic poison. The author mentions two little patients, both of whom had numerous fistulous openings communicating with diseased bone, who contracted diphtheria in the ward. The disease attacked the pharynx and continued for several weeks, but the wounds remained entirely free from the affection throughout the course of severe and protracted attacks. From such facts the author thinks that two conclusions are warranted: 1. That the diphtheritic poison selects the tonsils as its favorite avenue for entering the system. 2. That pharyngeal diphtheria shows a tendency to become a general affection, although not in all cases, not even the severest, does it become so general that all the tissues and secretions of the body are permeated with the poison. There are other cases of diphtheria which call for special consideration. They are accompanied by little or no fever, but the diphtheritic membrane has a great tendency to continue for several weeks, renewing itself until the process is apparently exhausted. To this form belong those cases also in which a circumscribed pharyngeal exudation becomes limited after a time to a small area on one of the tonsils, where it persists until it is extinguished by energetic local applications repeatedly made, although the patient's general condition remains good the whole time. In such cases, Mettenheimer has found that the glands of the neck, on the same side with the affected tonsil, are obstinately swollen and painful, and have to be subjected to special local treatment before the affection of the tonsil will finally yield. In his opinion, such cases force upon us the following inferences: 1. That in the inception of diphtheria the tonsils play a special part, and, hence, in this regard the disease may be considered local. 2. That the local and general manifestations pass so readily and rapidly into one another that it would be illogical to name diphtheria a local disease, in spite of its apparently purely local origin.

MINOR PARAGRAPHS.

THE MEDICAL CORPS OF THE NAVY.

It is not creditable to the Government that entrance into the medical corps of the navy should still remain so unattractive that the list of vacancies shows a tendency to increase rather than diminish. We have before called attention to this matter, and now the Surgeon-General of the navy, in his annual report, gives figures which show that, if this state of things is not soon corrected, the men engaged in the service will suffer for the lack of a sufficient number of medical officers.

A CHECK TO THE ILLEGAL USE OF PHYSICIANS' NAMES.

Two weeks ago, under the heading of "A Piece of Newspaper Effrontery," we commented on an article in one of the newspapers in which outrageous liberties were taken with a member of the profession. He was made to appear as having publicly recommended a certain nostrum. We learn that the gentleman whose name was thus unwarrantably used has had the public spirit to unearth the real author of the article and bring him before one of the courts on a charge of criminal libel; also that it was only the fellow's prompt plea of guilty, accompanied with his formal promise not to offend further in that manner, that saved him from the penitentiary. As it was, he was fined roundly.

THE CASE OF THE GERMAN CROWN PRINCE.

With the increase of gloom in the press dispatches concerning the Crown Prince's case comes the inevitable "I told you so." But this is not all; it takes the peculiarly offensive form of race feeling. Some of the German doctors do not hesitate to assert that Sir Morell Mackenzie has blundered, and they even couple this with the modest remark that thoroughly educated and competent physicians and surgeons are exclusively of German make, if not of German birth. They seem to overlook the fact that the diagnosis has all along been left to Virchow, as well as the other fact that those of their own nationality who are most eminent in laryngology are least disposed to speak unfavorably of the London surgeon's work.

OUR ANSWERS TO CORRESPONDENTS.

We have received a note from an esteemed member of the profession who suggests that more of our readers would profit by this department of the Journal if we published the questions as well as the answers. In the absence of good reason for not doing so, we endeavor to frame our answers in such a way as to indicate the nature of the question. But we would suggest to those of our correspondents who send us questions to be answered that, while we think it proper to devote a small amount of space to inquiries of a personal nature, we prefer to deal with matters of general interest.

THE ALEXANDER-ADAMS OPERATION.

It is altogether creditable to M. Masse, of Bordeaux, that he should have striven to show, as he lately did, that intubation of the larynx, the operation of shortening the round ligaments of the uterus, and resection of the ribs in cases of empyema were procedures originally proposed or practiced by his own countrymen. To establish his points, however, he ought to have guarded against erroneous statements, even concerning non-essentials; but this he does not seem to have altogether succeeded in doing, for he speaks of Alexander and Adams, each of whom has been credited with the operation on the round ligaments, as "two Americans." We should be very glad to claim those surgeons as Americans, but there is really no foundation on which to rest such a claim.

THE WICKING TAMPON.

According to the "Centralblatt für Chirurgie" (quoted in the "Medical News" for September 24, 1887), Dr. Gersung, of Vienna, has found wicking an excellent material for tampons in the drainage of wounds furnishing a moderate discharge, and it is used with excellent results at Billroth's clinic. Its use as a material for vaginal tampons was advocated by the editor of this Journal in June, 1880 (see "New York Medical Journal," vol. xxxi, page 593), and we are glad to observe that its advantages have lately been recognized abroad, with an enlargement of its field of application.

THE MEDICINAL HONEY OF TASMANIA.

In our issue for May 14th we gave an account of a sort of honey found in Tasmania by a French naturalist, M. Guilmeth. The honey was said to be the product of a variety of the bee named provisionally the *Apis nigra mellifica*, to have been obtained in large quantities from nests built in the tops of gigantic eucalyptus trees, and to have been found to possess therapeutical properties that promised to prove of considerable value. Our article, founded on statements published in the "Progrès médical," was copied into the "Scientific American," whereupon a resident of Tasmania wrote to that journal denying the truth of the statements, and implying that the account was a hoax. In a recent number of the "Union médicale," however, we find an announcement that a bottle of the *miel eucalypté* *naturel Guilmeth* will be sent to any physician on his addressing the *Pharmacie Chevrier*, 21, Faubourg-Montmartre. This offer, we presume, applies only to French physicians, but, if the alleged medicinal honey of Tasmania is in stock at the Paris pharmacy mentioned, in quantity sufficient to warrant the gratuitous distribution of specimens, it ought to be obtainable by purchase in amounts large enough for its title to rank as a medicine to be speedily settled one way or the other.

EUROPEAN IMPRESSIONS OF THE WASHINGTON CONGRESS

One of the "Union médicale's" *feuilletonistes* lately treated the readers of that journal to certain unfavorable criticisms on the management of the congress, even going so far as to allude to the secretary-general, Dr. Hamilton, in terms decidedly unrestrained, to all appearances, by either charity or common fairness. In a subsequent issue of the "Union," the same writer announces that his impressions were obtained from a correspondent of the "Bulletin médical," and he is kind enough to publish statements by M. Landolt, of Paris, and M. Cordes, of Geneva, which show that those gentlemen, at least, credit the managers of the congress with having exerted themselves to great purpose to make their foreign colleagues comfortable. Complaint is indeed made, and not unreasonably, that many were kept waiting in a *queue* an unconscionable length of time on the occasion of the reception at the White House. Possibly, however, Mr. Cleveland would gladly have changed places with any of them.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 15, 1887:

DISEASES.	Week ending Nov. 8.		Week ending Nov. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	22	3	18	2
Scarlet fever	80	9	80	5
Cerebro-spinal meningitis	2	2	1	2
Measles	44	1	39	6
Diphtheria	145	38	115	32
Small-pox	3	0	2	1

Scarlet Fever in Boston.—The number of cases that were reported to the Board of Health during the two weeks ending Saturday, November 12th, gave rise to the apprehension that the disease was becoming epidemic. It is now reported, however, that it is decreasing, and that the danger of an epidemic does not seem imminent.

The Woman's Hospital.—Dr. John H. Swasey has been appointed one of the assistant surgeons, in the place of Dr. B. F. Dawson, resigned.

The Opium Habit and Infantile Mortality.—Dr. J. B. Mattison asks us to announce that, if any of our readers can furnish him with the details of a case like one observed by Dr. Frank B. Earle, of Chicago, he will much appreciate the courtesy, and give the observer full credit. Dr. Earle's statement was that he had recently attended a woman taking about twelve grains of morphine daily, who had lost four successive babies, all of whom died in collapse when they were from two to four days old.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 6 to November 12, 1887:*

Greenleaf, Charles R., Major and Surgeon. Par. 8, S. O. 248, A. G. O., October 25, 1887, directing Surgeon Greenleaf to visit the recruiting depots and rendezvous at certain places, is amended to include Davenport, Iowa, Quincy, Ill., and Evansville, Ind. S. O. 257, A. G. O., November 4, 1887.

Loring, Leonard Y., Captain and Assistant Surgeon. Ordered for duty at Fort Mojave, Arizona Territory, upon the expiration of his present sick leave of absence. S. O. 258, A. G. O., November 5, 1887.

Perley, Harry O., Captain and Assistant Surgeon, now on duty at Fort Wayne, Mich. Ordered for temporary duty with troops stationed at Highwood, near Chicago, Ill. S. O. 258, A. G. O., November 5, 1887.

Ives, F. J., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 15th inst. S. O. 113, Department of the Platte, November 5, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 12, 1887:*

Heyl, T. C., Surgeon. Detached from the Marion and to proceed home and wait orders.

Craig, T. C., Passed Assistant Surgeon. Detached from the Marion and to proceed home and wait orders.

Wells, H. M., Medical Inspector. Detached from the Trenton and to proceed home and wait orders.

Peck, George, Medical Director. Ordered to Washington, D. C., as a member of the Examining Board.

Ayres, Joseph G., Surgeon. Ordered to the Galena to relieve Surgeon F. L. Du Bois.

Du Bois, F. L., Surgeon. Detached from the Galena and to proceed home and wait orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending November 12, 1887:*

Wyman, Walter, Surgeon. To proceed to Louisville, Ky., and Memphis, Tenn., as inspector. November 2, 1887.

Urquhart, F. W., Passed Assistant Surgeon. Relieved from duty at Cape Charles Quarantine; ordered to Norfolk, Va. November 6, 1887.

Magruder. G. M., Assistant Surgeon. When relieved, to rejoin station at Chicago, Ill. November 3, 1887.

Society Meetings for the Coming Week:

Monday, *November 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *November 22d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private).

Wednesday, *November 23d:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society (conversational).

Thursday, *November 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (annual—Portland); Pathological Society of Philadelphia.

Friday, *November 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *November 26th:* New York Medical and Surgical Society (private).

OBITUARY NOTES.

William O'Gorman, M. D., of Newark, N. J., died on the 10th inst. at the age of sixty-three. The deceased was a native of Ireland, and was graduated from the Royal College of Surgeons in 1849, in which year he came to this country. During the civil war he was chief of the New Jersey medical staff. He was at one time president of the New Jersey State Medical Society, and of the Essex, N. J., County Medical Society. He will be remembered as one of the surgeons who were called in consultation when President Garfield was shot, and also for his connection with the alleged cases of rabies which occurred in Newark in 1885.

Letters to the Editor.

THE NEGLECT OF HOSPITAL ATTENDANCE BY MEDICAL STUDENTS.

Ann Arbor, Mich., *November 11, 1887.*

To the Editor of the New York Medical Journal:

Sir: Will you allow one who for years has been a reader of your liberal journal, and for a very much longer period a member of the profession, to occupy a portion of your space for a few remarks on a subject which seems to be interesting your readers?

"A Traveler from New Zealand," in your issue of October 29th, expresses his surprise and "pain" at the fact that the services and abilities of your excellent clinical teachers in New York seem to be unappreciated, as the superior clinical instruction in one of the best of your hospitals was attended by only about a dozen men, and that too when the teaching in that hospital was free.

This has called forth two letters in your next issue from New York, and one from Brooklyn, criticising the inferences drawn from the observed fact of your New Zealand correspondent, but virtually admitting that clinical teaching is sadly neglected by the mass of students in most of the schools.

The observations, and in fact the inferences of the New Zealander, are sustained by information from other sources, and also by my own occasional visits to your city and to other hospitals and schools.

The reason for this state of things it is not difficult to understand. The mass of students in the medical schools of New York and of nearly all the cities in this country attend only two sessions of not more than six months each; and during each six months the whole field of medical science, including anatomy, histology, physiology, pathology, chemistry, and materia medica, as well as what are called the *practical* branches of practice of medicine, surgery, obstetrics, diseases of women and diseases of children, and the various specialties, is attempted to be traversed. Now, it is not within the bounds of the human capacities or of the natural possibilities that this should be accomplished, and much less that, after this, there should be time, strength, and interest for bedside instruction, however clearly and skillfully such instruction may be presented. With all these subjects on their hands and an examination upon them all, however lax, before them, students *will* not and *can not* in any proper sense give attention to bedside observation and instruction. This is too apparent to require any more than the simplest statement.

The remedy, and a remedy is most imperatively demanded, is the lengthening of the course of college instruction, and its gradation, with proper repetitions of the more important subjects. There is no other. Until this remedy is applied, our medical education will remain imperfect—for the great body of students wretchedly so. The difficulty is not in too much didactic teaching. There is indeed too little of that to lay a proper foundation for a practical superstructure. We need all and more, much more, of elementary instruction, more laboratory work and drill, and more of systematic teaching, such as is given in didactic lectures. For imparting to the average student a knowledge of the science and art of medicine as correlated with physiology and pathology, there is no method equal to didactic lectures and oral examinations upon and reviews of the subjects. This every skillful teacher and every intelligent student must understand; and this should be followed by clinical illustrations to complete the education. After thorough and extended didactic and laboratory work, the study of cases will be most profitable. Hospital stewards and nurses see many cases and may hear many things said respecting them, but they are not made physicians and surgeons by this, unless they have had a proper foundation laid in the elementary medical sciences. Work on the superstructure may do harm by distracting attention from the foundation, and all may be imperfect and insecure. The saying can not be too strongly insisted upon, "*First* that which is elementary, and *afterward* that which is practical."

An illustration of the principle I wish to impress may be found in the present position of the Department of Medicine and Surgery of the University of Michigan. For the last ten years the course of instruction has been extended to three years of nine months each. The first year the student is expected to devote himself entirely to the elementary branches of anatomy, chemistry, physiology, materia medica, microscopy, botany, and laboratory work in these subjects. During the second year he reviews and completes these subjects and advances to others—such as pathology and hygiene—and attends lectures on most of the still more advanced and practical subjects. At the end of this second year he passes a final examination on the first year's subjects, which have been reviewed, so that the last or third year his attention is devoted to practice of medicine, surgery, obstetrics and gynæcology, pædiatrics, ophthalmology, and clinical work. During the second year he is allowed to attend many clinics, and the third year, having completed his laboratory work, he is *required* to attend from six to ten clinical lectures and exercises a week, besides the didactic lectures, the latter mostly in review on the "practical" subjects. The University Hospital has about one hundred beds, and that with the out-door patients affords a large, but not a complete, variety of cases, as patients with acute contagious diseases are not admitted, and the number of recent injuries and cases of acute febrile disease is comparatively small. There are, however, of the classes of cases received, as large a number as students can profit by while attending the necessary didactic lectures and laboratory work, and preparing for their final examinations.

The faculty, however, convinced of the great utility of further clinical advantages, after a protracted discussion have unanimously passed the following resolution, which, being presented to the Board of Regents who govern the affairs of the State University, has been favorably considered, and a committee of that body has been appointed to carry the request into effect:

"Believing that medicine, including the science and art, in its present and prospective expansion, with the many specialties into which it tends to be divided, requires a much longer period of study and of college and hospital instruction than is provided for by the common medical schools of this country, and that even the course of instruction in the College of Medicine and Surgery of this University would be improved by its extension to *four* years, instead of three, thus bringing it nearer the standard of the most advanced medical schools of Europe, we therefore respectfully request the Honorable Board of Regents to inquire into the possibility and expediency of providing for a course of instruction of four college years' continuance, the last year to be devoted chiefly to clinical specialties, after the full three years' course, as now established, with its labors and honors, is completed; and we respectfully call attention to an inquiry into the facilities which may be made available in Harper Hospital and other institutions in the neighboring city of Detroit for this purpose, and for as speedy an establishment of this course as may be found practicable."

It is hoped that no insurmountable obstacle will be found to the success of the enterprise, and that the time is not distant when it will be practicable, in place of the plan now contemplated of affording an additional diploma to those who take the four years' course, to require this course to be taken before the degree of M. D. is conferred by the University.

Should the profession and the community *practically* demand a four years' course by sustaining it with their patronage as well as by verbal encouragement, I do not doubt the University authorities will be among the first to require such an extended course for the conferring of any diploma.

A. B. Palmer.

DR. CORNING'S METHOD OF ANÆSTHETIZATION.

28 West Forty-third Street, *November 2, 1887*.

To the Editor of the New York Medical Journal:

Sir: I wish to write a few words which will be of interest only when taken as a part of, or supplement to, a letter of Dr. Corning's published by you a week or two ago, in which he explained or mentioned an idea of his of giving ether to patients who were difficult to etherize.

The patient upon whom he tried the experiment of ligating both inferior extremities previous to etherization, and upon whom Dr. Webster then performed a preliminary iridectomy with the least possible trouble or annoyance, with ether or otherwise, was to-day operated upon by Dr. Webster at the Manhattan Eye and Ear Hospital for extraction under ether given in the ordinary way. It was found impossible to thoroughly etherize the patient to-day, and he apparently never entered the first stages, and not once was thoroughly unconscious. And, although a number of ounces of ether was given him, he would answer remarks made by the by-standers, twist himself, and roll his eyes in a manner most unpleasant, and Dr. Webster several times remarked that he wished Dr. Corning was present with his rubber straps.

There was a very marked contrast between the etherization of the patient by Dr. Corning's method several weeks ago and the condition to-day when he was etherized in the ordinary manner. Then it was a perfect success, and to-day a perfect failure.

At the time of the first experiment Dr. Corning was elated at the success, and I remarked to him "One swallow doesn't make a summer," but I must now admit that to-day's experience has multiplied that swallow considerably.

J. Oscroft Tansley.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of November 1, 1887.

The President, Dr. Charles L. Dana, in the Chair.

Dr. George W. Jacoby, Secretary.

Aphasia without Paralysis.—Dr. Beverley Robinson presented a patient, and gave a history of the case from notes furnished by a member of the house staff of Charity Hospital. The patient, a man, sixty-eight years of age, born in this country, was admitted into Charity Hospital on August 25th. There was no history of syphilis. He had once had rheumatism in the knees, but the date was not known. His present difficulty dated from May, when he commenced to have headache. Subsequently he fell out of bed to the floor. He was able to crawl back into bed, but from that time his speech was affected. He was treated in Bellevue Hospital, and was from there transferred to Charity Hospital on the date named. He was then apparently in perfect physical health, except as to his speech. Objectively, there were no signs of paralysis. His walk was slow, but good; possibly the right leg dragged a little. The dynamometer registered twenty with the right hand, and ten with the left hand. The faradic reactions were normal in the upper extremities. In the lower extremities they were somewhat quicker and stronger upon the left than upon the right side. The sight in the right eye was as good as before the injury. The right eye was found more hypermetropic than the left, but both optic discs showed the physiological cupping. The urine was normal. When admitted, the patient could speak only in monosyllables, using most frequently the expressions "Yes," "No," "That's it," and "Exactly." He read the newspaper, and apparently understood what he read. He also used gestures and explanatory words. When asked his age, as by the question "Are you forty?" he would answer "No"; "Thirty-two?" "No"; "Forty-three?" "No"; "Sixty-eight?" "Yes." If given a pencil and paper and told to write his age, he would put down an 8 and in front of it a 6, adding, "That's it." He could not write his name, but wrote John in the place of Isaac. It thus appeared to the speaker a case of amnesic and ataxic aphasia, with agraphia, depending upon lesion of the foot of the left third frontal convolution. His own interest in it had been directed to the question whether a lesion of this area would involve the intrinsic muscles of the larynx. On account of the difficulty of obtaining intelligent co-operation, however, he had not been able to make a satisfactory examination. The treatment had consisted in the administration of fifteen grains of potassium iodide three times a day.

The President asked whether the patient could copy, and whether mirror writing was obtained with the left hand.

Dr. Robinson did not think that the patient could copy, but would test the point.

The President suggested that the patient's own name be not used, and the president's was substituted. The patient wrote Charles Dane. Dr. Jacoby added a phrase, and found that the patient wrote *s* for *m*, and *f* for *i*.

Dr. Starr would rule out amnesia in the case. The terms amnesic and ataxic aphasia had respectively a sensory and motor signification. Here the patient apparently understood perfectly, and his difficulty was purely ataxic, or motor.

Dr. Ball asked how carefully the question of sensory ability had been tested. When told to do certain things, would he do them; also would he do the same when written directions were given him?

Dr. Robinson replied that the patient had complied with oral directions, but that written directions had not been tried.

The President asked whether the patient was able to utter exclamatory language. In some cases where ordinary speech was lost on account of lesion of the left third frontal convolution, profane or ejaculatory language was still possible through the agency of the corresponding center upon the right side.

Dr. Robinson stated that the patient did not present this peculiarity.

Dr. Putnam Jacobi asked whether the test suggested by Dr. Ball could not then be made.

Dr. Ball directed the patient to take hold of Dr. Robinson's left thumb. The man hesitated and apparently failed to understand, but complied when directed simply to "take his thumb."

Dr. Starr asked the patient whether he read the papers and understood them, and the man replied, "Yes, of course."

Dr. Ball mentioned the case of a physician, now dead, who had been aphasic for several years. During most of the time he read and apparently understood, yet it was probable that he obtained the sense from leading words, and that a large number of the words he did not understand at all. Probably the same was true in this case.

Dr. Robinson asked whether there was any recognized difficulty in the use of the intrinsic muscles of the larynx for phonation associated with the aphasic condition.

Dr. Starr had been interested in this subject in consequence of a paper by Dr. Delavan in regard to a cortical center for the larynx. For a year he had sent to Dr. Delavan all patients with hemiplegia who had come to him at the Polyclinic and the Demilt Dispensary. Fifteen or sixteen had been examined without the discovery of any affection on either side of the larynx. He believed that no such case was upon record. It was certainly contrary to the general experience of neurologists to find any difficulty of phonation connected with aphasia. In fact, Dr. Ross, in his last edition, had stated that in the lesion of aphasia the muscles of the larynx were not affected.

Dr. Robinson had an impression that literature showed such cases. He had had his attention directed to the subject in this way.

Dr. Starr asked whether a patient could have this paralysis of the larynx without being hoarse.

Dr. Robinson replied that he could. He had seen patients with partial paralysis of a vocal band who were not hoarse.

Dr. Gray stated that a distinction should be made between hemiplegias from lesion of the internal capsule and those from lesions of other parts, particularly the pons and the medulla. In six or seven cases in which hemiplegia was due to hæmorrhage, embolus, or thrombus in the internal capsule, he had had careful examinations made by competent laryngologists, and in none of them was there any paralysis of the laryngeal muscles. In hemiplegia from other causes, alteration of the tone of voice was sometimes observed. In true and simple aphasia, he thought, the voice was not affected.

The President added that in pseudo-bulbar paralysis the larynx was involved, the lesion being in the corpus striatum.

The Significance of Pelvic Pain was the title of a paper read by Dr. H. C. Coe. Pain was not a reliable indication of disease. Often an epithelioma of the cervix would cause less distress than a displacement. The description of pain by the patient, and the localization of its cause by the physician, presented separate topics for thought. As described by the patient, the pains of the pelvic region were, in general terms, an aching pain in the lower part of the sacrum, a shooting pain in the inguinal regions, and the gnawing pain of carcinoma. All these pains could be referred to some lesion of the peritoneal or connective tissue, or both—to some plastic exudation not necessarily of great amount. The distress caused by a retroflexed uterus was much greater where there were adhesions than where there were not. It was fair to assume that this constant aching pain was due to the implication of nerves in the exudate. Laceration of the cervix, excepting that extending into the vaginal fornix, did not, in itself, cause pain. The cervix was a very insensitive organ, and its laceration was but a link in the chain of circumstances which resulted in pain. Malignant disease, even, did not necessarily give rise to pain. Hart and Barbour had said that there was no pain so long as the cervix only was affected, and Hewitt had said that the pain of cancer was due to localized attacks of peritonitis. The pain was felt earliest and most severely when the growth was in the body of the uterus, and in that respect carcinoma differed from sarcoma of the body of the uterus, in which there was little pain. Possibly in this variety of cancer the intramuscular nerves were involved in the growth. The shooting, darting, sickening pains associated with disease of the Fallopian tubes were due to nothing but peritonitis. Hegar had referred to cicatricial nodules in the broad ligaments, and even in the case of ovarian neuralgia it seemed probable that the pain was due to pressure upon the nerve before it entered the organ rather than to changes within it. Otherwise this pain would not be relieved by the relief of perimetric adhesion, as frequently occurred. The inference was that a guarded prognosis should be given in regard to the relief of pelvic pain. If the pain associated with a fissured cervix was due to cicatricial nodules in the broad ligament, we might cure the laceration and the endometritis, and yet the pain would continue. To remove the ovaries for the relief of pain was even more hazardous. The author thought that gynæcologists exaggerated the frequency of reflex pain. With the president, he considered anæmia the most frequent cause of vertical headache. Pelvic reflexes were found in the upper lumbar and intercostal nerves. He had not found sciatica of ovarian origin, according to Dr. Mundé's suggestion. It might occur as the result of some exudates, but must be rare as a reflex pain. Dr. Mundé himself had somewhat oddly remarked that this pain was relieved by a blister over the sciatic notch. Dr. Polk's plan of separating adhesions for the relief of pain presented hardly less risk than the usual operations referred to. Treatment by electricity, according to the methods of Apostoli, gave the most satisfactory results. Reflex or transferred pains might also be due to inflammatory foci, and might be treated in the same way.

Dr. Gray, as a neurologist, felt at a loss to know how to discuss such a paper. Many pains besides those of pelvic origin centered in the back, such as muscular pains and the pains of peripheral neuritis. He had himself often referred patients to competent gynæcologists for examination, and they had found nothing in the pelvis to account for pain over the sacral, lumbar, or coccygeal vertebræ. Yet, on the other hand, one could not deny the capricious vagaries which distinguished the truly reflex pelvic pain.

Dr. Putnam Jacobi did not consider that the writer of the paper had proved his position. Pelvic pain might be more definitely mapped out. The uterus, the central organ of the pelvis, was supplied by the lumbar plexus; and lesions of this organ were accompanied by pain in the track of the lumbar nerves. Two or three other definite points were known. Pain referred to the distribution of the femoro-cutaneous nerve was the most characteristic accompaniment, not of oophoritis, but of ovarian neuralgia. Again, pain in the end of the spine might be spinal, ovarian, or endometrial in origin. A retroverted uterus without circum-uterine lesion would cause aching in the sacral region, but no coccygodynia. The speaker considered pain from pelvic exudation rare and somewhat hypothetical. Even chronic peritonitis caused only a dull aching pain which was quite tolerable except when the patient was moving about. In the worst case which she had ever seen, one in which the patient finally died from an exacerbation, she was comfortable when in bed. A ganglion situated between the body and the cervix had frequently been found diseased in cases of pelvic pain, especially in those associated with posterior perimetritis; and in some cases of violent hysteria it had been found atrophied. It was often the site of excessive tenderness, and a permanent neuralgia might result from a perimetritis which would persist long after the removal of its cause.

Dr. **Ranney** quoted the late Dr. Beard as having said that the nervous system was like a mountainous region, in which echoes were returned with equal intensity from distant parts. This description was peculiarly applicable to pelvic pain. As a general practitioner he had frequently treated pelvic pain locally, without relief, in cases where it had finally disappeared upon the removal of a distant cause. It was not in his opinion possible to establish the seat of any pain unless removal of the supposed cause established a cure. He had failed to find compliance with this formula in the interesting paper under discussion.

The **President** had often been disappointed when he had sent patients with pelvic pain to gynæcologists for examination, and he had observed that painful neuroses, even, had in some cases resulted from gynæcological treatment.

Dr. **Peckham** considered that the reader of the paper had underrated the suffering from direct pressure as a factor of pelvic pain. A retroflexed uterine body, or an hypertrophied cervix, or an anteflexed body might cause a good deal of suffering by direct pressure upon the sacral nerves. Again, pain in the right or left iliac region might often be attributed to tension where, with a shortened broad ligament and lateral deviation of the uterus, there was pulling upon the ligament of the opposite side. Pain persisting after an operation might subsequently be found to have disappeared. The eye which looked on the sun retained its image for a time. Thus the nerves of other parts after prolonged irritation retained the impression of that irritation and the habit of pain after the removal of the cause. Time was thus required in these cases to perfect a cure. The speaker indorsed the value attributed to electricity by the author of the paper. Whether it acted by a direct influence upon the nerves themselves or by modifying the pelvic circulation was not apparent.

Dr. **Starr** read a preliminary report of the Stevens Commission.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting of September 17, 1887.

The President, Dr. **Thomas M. Drysdale**, in the Chair;
Dr. W. H. H. **Githens**, Secretary.

Remarks on the Removal of Uterine Fibroids were made by Dr. **George Granville Bantock**, of London, England. The tumor which would form the subject of his remarks, he said, had been removed the day before from a single woman, aged thirty-six, a patient of Dr. Joseph Price's, and weighed between five and six pounds. At first sight he had doubted the propriety of operating, because there seemed to be no indication for interference beyond the rate of growth of the tumor, and because the patient, as he had been assured by Dr. Price, very much minimized the extent of her sufferings. The matter was thoroughly explained to her, the danger of the operation was made clear, and it was pointed out that, if an operation was necessary at some time, she would never be in a more favorable condition for it. The patient was aided by her mother in coming to a decision, and he was struck by the readiness with which they both decided in the affirmative. This was so far fortunate, for it would be seen that the tumor had in its upper part already undergone cystiform degeneration. [Here an incision was made into the cyst before the meeting, giving exit to over half a pint of a thin sero-sanguinolent fluid.] The condition of the patient was now most satisfactory.

Proceeding to the general subject of the removal of uterine fibroids by abdominal section, he pointed out that operators were to be divided into two schools: the one preferring to treat the pedicle by the intraperitoneal method, the other preferring the extraperitoneal. The advocates of the former based their arguments on the success which had resulted in the operation of ovariotomy since the introduction of the intraperitoneal ligature of the pedicle. But it was hardly necessary for him to show how fallacious such reasoning was, for the conditions were so dissimilar. It was true that there were many different forms of ovarian pedicle: it might be large or small, long or short, broad or narrow, thick or thin, but they were all essentially of the same character, and capable of being more or less easily secured by ligature, which might be confidently relied on if properly applied. On the other hand, the uterine stump was very different. It was composed of muscular fiber, and white and yellow elastic tissue, forming a structure so peculiar that, under the pressure of a ligature tied with as great a strain as it would bear, it yielded before the compressing force to such an extent that in a few hours the ligature might be quite loose. This occurred even when the pressure was exerted with the aid of a screw. He pointed out to those who had been present at the operation that at the first tightening of the screw there was complete arrest of the bleeding for the time, but that at intervals of ten or fifteen minutes the screw would bear a turn or more. In this way an amount of constriction was attainable which, if attempted at once, would probably lead to the breaking of the wire or the cutting of the tissues. He had just come from the meeting of the American Gynæcological Society, where he had read a paper on the subject of the treatment of the pedicle, and where the opposite school was so well represented in the person of Dr. Martin, of Berlin. He had the satisfaction of feeling that, for the time at least, he had established his position.

Now, the pedicle in this operation varied very much, not in the nature of the tissues forming it, but in the extent and manner in which the parts were involved. Thus, the tumor might spring by a distinct pedicle from the fundus or some part of the free surface of the uterus. In such a case, the application of the extraperitoneal method was very simple, and his results had been uniformly good, for in thirteen of these cases all the patients had recovered. On the other hand, of all the cases of this kind treated by the ligature and intraperitoneal method, five in number, only one had been successful. Moreover, he had attempted the method in several cases, and had been obliged to resort to the extraperitoneal method after failure of the ligature though preceded by compression with very powerful forceps. When the body of the uterus was extensively involved in the growth, matters might be very much complicated. The broad and ovarian ligaments might be so lax that it is a simple matter to include the ovaries and uterus in one encircling loop. Such a case was a little more difficult than an ovariotomy done with the clamp. But the ovarian ligament might be so short on one side that it had to be ligatured separately. That had had to be done in the case that furnished the occasion for his remarks. As a rule it was advisable in such a case to secure the uterus and the other ovary first, to transfix the stump with the supporting pins placed across the abdominal wound, to cut away the tumor, to trim the stump, and then to remove the ovary, lest in tightening the instrument any part of the ovarian pedicle should be pulled through the loop of the ligature. In the case under consideration it had not been necessary to observe this order, as the broad ligament on the left side was very lax, while the ovarian ligament was very short. On the right side the ovary could be raised quite out of the pelvis. Sometimes both ovaries were thus tied down and had to be secured separately. The same precautions must be observed.

But the disease might involve the whole body of the uterus properly so called; then one must make a pedicle, which was a difficult thing to accomplish. It was for such a state of things that he had devised his method of partially enucleating the body of the uterus and the lower portion of the tumor. The large vessels of the ovarian plexus were secured on each side with two forceps or stout ligatures, the lower forceps on each side being placed an inch higher than the level of the proposed constriction. Then the peritoneal investment was divided all round on a level between the upper and lower forceps, and reflected downward toward the cervix nearly to the level at which the loop of the *serre-nœud* was to be applied. In doing this, it was necessary to seize the peritoneal edges with forceps placed at intervals of about an inch. When the reflection was completed, these instruments were collected and raised up, and the wire loop was applied outside the peritonæum. Sometimes, especially when it was desirable that the patient should not lose much blood, it was well to throw an elastic ligature around the uterus and broad ligaments as soon as the division of the peritonæum was effected. Applied in this way, it served to draw in the broad ligaments toward the uterus, and to enucleate the tumor. It was to be removed as soon as the *serre-nœud* was applied—above or outside it, of course. In this way an inch or more might be gained in the length of the pedicle. It should be remembered that in this method it was necessary to have the stump so long that the whole of the constricted portion would be outside the peritoneal cavity, in which position it was to be retained by the transfixing pins, which passed through the stump just outside the wire loop, and rested on the parietes on each side of the wound. While the peritonæum was being reflected, the tumor should be held up by the assistant, and thus it rose gradually out of the pelvis with the uterus. One precaution to be observed very carefully in these cases was to transfix with the pins *before* cutting away the tumors. He had once lost a patient through the non-observance of this precaution. The last steps were to cut away the uterine tissue within a quarter of an inch of the pins, and to trim the loose peritonæum by cutting it away within half an inch of the loop, and then stitching it from opposite sides across the surface of the stump to hold it all well together. Before the wound was closed, a final turn should be given to the screw, if it would allow of it. It was to be remembered that the distal portion of the stump must slough off, that it was desirable that the amount of this tissue should be as small as possible, and that it was necessary to keep it out of the peritoneal cavity. Great stress had been laid upon the character of the mucus in the uterus and the cervical canal, and, as those present might have observed, great care had been used in wiping it away and setting aside the sponge employed for the purpose. One operator had gone so far as to pass an iodoform pessary down the canal for the purpose of disinfecting. This was a practice with which he had no sympathy; nor was it rational or founded on any sound reasoning. He looked on it as a bugbear, and regarded it as a means of withdrawing attention from other and more important matters of detail. As to comparative results, Martin had just reported eighty-four cases, with a mortality of twenty-five, while the speaker was able to point to seventy-two cases, with only twelve deaths.

In regard to Listerism, there was some misapprehension of the value of terms. Some operations were termed aseptic, but only the result could prove any operation to have been aseptic. All operations were or were not performed upon some antiseptic method. The speaker had now discarded all antiseptic agents. When Listerism was first introduced, he used it in all its details, and continued to do so until he lost a patient, and had others affected by what he felt sure was carbolic-acid poisoning. An easy and sure test for this was the absence of sulphates from the urine. In one case of carbolic-acid poisoning the temperature rose to 107° F., and the patient was almost moribund; by means of wet sheets and ice-packing, the temperature was brought down to normal in eight hours, and she recovered. In one fatal case the kidneys were found congested, and there had been acute suppression of urine. After this experience he gradually reduced the strength of the carbolic washing fluids to one per cent. Coincidently, the proportion of sulphates in the urine increased, and there was an absence of high temperature and other symptoms until then of unknown origin. Now, as a one-to-forty solution was the weakest that could be useful as a germicide, a one-per-cent. solution could serve no good purpose, and the carbolic acid was omitted altogether. Afterward he tried doing without the spray, and the results steadily improved. Of his last one hundred ovariotomies, only three had proved fatal; and of the last seventy-eight, only one. But ovarian statistics did not apply to uterine operations.

M. W. H. Parish had been present at the operation the day before, and it had been a complete illustration of what was necessary in all operations. First, as to saving blood, Dr. Bantock had been very careful to use hæmostatic forceps to secure every bleeding point in the abdominal wound before opening the peritonæum. The same economy of blood had been observable in every step of the operation. Great care had also been taken to avoid shock from cooling the intestines by the contact of air and consequent evaporation; large flat sponges were pressed in to cover the intestines and prevent their escape or the entrance of blood or discharge into the peritoneal cavity. He was extremely careful about the cleansing of his sponges before reintroducing them into the wound. In placing sutures, he first passed several silk-worm-gut stitches, close to one another, near the stump. After the wound was entirely closed, it was covered with clean absorbent gauze, and a pile of this was placed over the stump. The whole was secured with a cotton binder, no adhesive plaster being used. So, while using no germicide at any time, every care was taken to make the operation an aseptic one. Would Dr. Bantock consider it safe to transfix, ligate, and drop the pedicle in case of a uterine fibroid having a thin pedicle as long as a finger? The speaker had done so on one occasion, and the patient had died.

Dr. Bantock replied that a uterine fibroid with a finger-like pedicle he had never seen. He had observed none smaller than half the size of his wrist. He thought the extraperitoneal method safer in every case.

Dr. Langaker made some remarks about securing the peritonæum over the base of the stump, and asked what kind of suture Dr. Bantock preferred for that purpose.

Dr. Bantock said that any kind of suture would do; it was merely to secure a neat stump that would not spread out over the wound. He preferred fine silk-worm gut for sutures. He introduced the needle from within, close to the edge of the peritonæum, and made sure of a hold in muscle or aponeurosis, and then through the subcutaneous fat and skin, to secure a firm hold and prevent subsequent hernia.

NINTH INTERNATIONAL MEDICAL CONGRESS.

SECTION IN GENERAL SURGERY.

(*Concluded from page 529.*)

Amputation at the Hip Joint for Sarcoma.—Dr. F. S. Dennis, of New York, read a paper in which he reported the case of a young man, aged seventeen years, whose family history was good, and who had always been in good health until about five months prior to his admission in the hospital. At the time of admission his weight was eighty-five pounds. Five months prior he had first noticed a dull pain in the thigh, and shortly afterward he had discovered a swelling in the thigh. He had had no fall or blow. About two months after the first appearance of the pain the tumor had been aspirated, and about two ounces of bloody fluid drawn off. The swelling was fusiform in shape, the skin was purple, and large veins were to be seen on the surface of the tumor, while the glands of the thigh and groin were much enlarged. The diagnosis was that of sarcoma of the femur, and amputation at the hip joint was suggested as the only means of saving life. This amputation was done, and the wound, dressed antiseptically, had entirely healed by the sixth or eighth day after the operation. After the patient left the hospital the wound reopened a little and discharged pus mixed with blood; this was found to be due to sloughing of the ligamentum teres, upon the removal of which the wound healed kindly, and the young man was now well.

Dr. Donald McLean, of Detroit, said that an important practical point was with reference to the method of restraining hæmorrhage. The mortality in olden times was largely due to the defective measures of controlling bleeding. The method described by Dr. Dennis seemed open to the objection that the elastic band might slip, when the operation was delayed. The speaker had amputated at the hip a number of times and had had the utmost satisfaction from the use of Lister's abdominal compressor. He believed that this was superior to any other means of controlling hæmorrhage in this region. If the compressor was not at hand, the fists of an assistant would answer the purpose, the compression being made over the umbilicus.

Dr. S. H. Weeks, of Portland, Maine, said that he had employed an elastic compressor consisting of the ordinary black rubber bandage, doubled so as to make four strands two feet in length. This was passed between the thighs, brought between the tuberosity of the ischium and the rectum, and up in front over the femoral artery. An ordinary roller bandage was placed over the artery. The ends were brought over in front and held by an assistant. This also controlled hæmorrhage from the gluteal vessels.

Dr. Gunn, of Missouri, said that he had understood the author to state that he did not know of a case of sarcoma of the femur in which the patient was alive one year after operation. He had assisted at an operation in a case of sarcoma on the lower third of the thigh. Eighteen months later the patient was living and healthy.

Dr. Reyher, of St. Petersburg, thought that in emaciated subjects it would not be advisable to make such sudden compression as was caused by Lister's compressor. He had used the rubber tourniquet, but without special satisfaction. He had performed another operation. He made an excision of the head of the bone. He then placed one stick through the wound and another in front, securing them together by rubber bands. The same thing was done with the posterior portion. The flaps could then be cut without hæmorrhage. In three operations he had had no disagreeable results from this measure.

Dr. W. Boone, of Shanghai, China, remarked that no one had alluded to the method proposed by Dr. Furnell Jordan. Where there was sufficient tissue free from disease, this seemed to present many advantages. This operation was performed by making a circular cut through the muscles low down, making a flap, and then turning back the flap. The bone was next divided, and then its head was excised. In this way the vessels were cut low down, and the control of bleeding was absolute.

Dr. Palmer, of Jonesville, Wis., said that he had employed a method similar to that of Dr. Reyher. Instead of stitches, he had passed pins of sharpened steel wire through the limb in front and behind the bone, and then secured them to other pieces in front of and behind the limb.

Dr. Chavasse, of Birmingham, Eng., said that, in amputating for malignant disease, the less tissue left the better; therefore the operation of Mr. Furnell Jordan was not a good one for this particular disease. The best method was that known as Brodie's operation by anterior and posterior skin flaps. In children the best plan for controlling hæmorrhage was by digital compression. This was also applicable in thin subjects. He had also used Davy's rectal staff with satisfaction.

The Surgical Treatment of Epilepsy by Trephining was the title of a paper by Dr. Jasper J. Garmany, of New York, who related the case of a girl of about eighteen years of age who had been struck on the head with a brick falling from a house-top and causing fracture of the skull. The skull was trephined and the splinters of bone were removed, but some time after the wound had healed she began to have attacks of epilepsy, for which ordinary treatment had been unavailing, and the reporter finally operated on her with an entirely successful result. As a result of his researches on the subject, he had found that lesions in the frontal and parietal regions were followed usually by the same symptoms, and that over fifty per cent. of the lesions in these regions were followed by epilepsy, which was eventually complicated by insanity. Trephining at the site of the lesion and removing the cicatrix was usually followed by complete relief.

The Treatment of Psoas Abscess by Posterior Lumbar Incision.—Dr. Lewis H. Sayre, of New York, read a paper in which he strongly insisted on the early and free posterior and anterior incision in these abscesses, followed by thorough drainage.

Dr. Edmund Owen, of London, opened the discussion which followed and spoke long and earnestly, strongly deprecating "ostrich surgery" in these cases, and advising early opening of the abscess with free drainage.

The Removal of Sequestra by Solution in Acid.—A paper by Dr. Edmund Andrews, of Chicago, was then read, in which the author gave his experiments in detail and related a number of cases in which sequestra had been removed by the use of acids without operation. He recommended that hydrochloric acid be used of a strength a little weaker than the official dilute acid.

Gastrotomy.—Dr. A. C. Bernays, of St. Louis, referring to Dr. Richardson's paper, said that he had had a case somewhat similar to that reported. A tailor had swallowed an ordinary silver case knife which had passed into the stomach. He saw him one hour after the accident and performed gastrotomy. The incision was made in the linea alba. The knife was found lying transversely with the handle toward the pylorus. A short incision was made, the knife removed, and the opening in the stomach closed with a double row of sutures. He thought that in such cases the continued suture was to be condemned.

Book Notices.

A Treatise on the Principles and Practice of Medicine; designed for the use of Practitioners and Students of Medicine. By Austin Flint, M. D., LL. D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, etc. Sixth Edition, revised and largely rewritten by the author, assisted by William H. Welch, M. D., Professor of Pathology in Johns Hopkins University, Baltimore, and Austin Flint, M. D., LL. D., Professor of Physiology in the Bellevue Hospital Medical College, New York. Philadelphia: Lea Brothers & Co., 1886. Pp. 1160.

Although this edition of the late Dr. Flint's classical work contains much added matter, it is all so completely in harmony with the original plan of the book, and worked up with the carefulness and precision characteristic of the great teacher from whom it emanated, that formal criticism is uncalled for. As well might one, from a purely literary point of view, criticise the writings of Addison and Steele. Posthumous though it is in its actual appearance, it is the real and crowning work of the lamented author, except as to the process of seeing it through the press, and except for the designated contributions made by the younger Dr. Flint and by Dr. Welch.

The appearance of each new edition of this sterling work speaks unmistakably of the discrimination and discernment possessed by the average medical book-buyer, and affords us a fresh and welcome opportunity to repeat our expressions of appreciation. Beyond a doubt, editions still to come, in view of the care with which they are certain to be prepared, will hold the commanding position that the work has always held in the esteem of all English-speaking physicians.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

Asselin & Houzeau, Paris.—A. Bouchard, "Nouveaux éléments de pathologie externe," vol. i, part 2. (6*fr.*)

J. B. Baillière & fils, Paris.—E. Cohen, "Orteil en marteau, nouveau traitement par ostéotomie cunéiforme." (2*fr.*) —— R. Jamin- "Des fistules juxta-uréthrales du méat." —— C. Martel, "De la phlébite dans le cours du rhumatisme blennorrhagique."

A. Delahaye & E. Lecrosnier, Paris.—Pouillet, "Étude médico-philosophique sur les formes, les causes, les signes, les conséquences et le traitement de l'onanisme chez la femme." 5th ed. (3*fr.* 50.) —— Ferrand, "De l'exercice et des troubles de la parole et du langage." (1*fr.* 50.) —— H. de Presnay, "Études d'obstétrique pratique. Considérations pratiques sur l'avortement." (2*fr.*) —— L. Thomas, "La migraine." (2*fr.*) —— Gilis, "Prolifération de la cellule par kariokinèse." (3*fr.*) —— Hamon, "Considérations thérapeutiques et cliniques sur les présentations du siège." (1*fr.* 50.)

O. Doin, Paris.—A. Baréty, "Le magnetisme animal." (14*fr.*)

Lahure, Paris.—C. James, "M. Pasteur, sa nouvelle méthode dite méthode intensive peut-elle communiquer la rage?" (1*fr.*)

Bureaux des "Nouvelles archives d'obstétrique et de gynécologie," Paris.—G. Apostoli, "Nouveau traitement de la métrite chronique par la galvano-caustique chimique intra-utérine." (3*fr.* 50.) —— A. Doléris, "Curage et écouvillonage de l'utérus dans l'avortement." (4*fr.*) —— A. Doléris, "Raccourcissement des ligaments ronds." (4*fr.*) —— A. Doléris and Butte, "Intoxication par le sublimé corrosif." (2*fr.* 50.) —— A. Doléris, "De l'endométrite et de son traitement." (3*fr.*) —— W. T. Lusk, "De l'utilité de l'intervention opératoire précoce dans la grossesse abdominale." (2*fr.* 50.)

C. Gerold's Sohn, Vienna.—W. Biedermann, "Ueber die Innervation der Krebsschere." (2*M.*) —— E. Brücke, "Ist im Harn des Menschen freie Säure enthalten?" (0*M.* 20.) —— M. Löwit, "Die Umwandlung der Erythroblasten in rothe Blutkörper. Ein Beitrag zur Lehre von der Blutbildung u. der Anämie." (1*M.* 20.) —— A. Maschek, "Ueber Nervenermüdung bei elektrischer Reizung." (4*M.*)

Bureaux du "Progrès médical," Paris.—I. Straus, "Le charbon des animaux et de l'homme." (6*fr.*) —— Terrillon, "Leçons de clinique chirurgicale." (3*fr.* 50.)

G. Steinheil, Paris.—C. Caravias, "Recherches expérimentales et cliniques sur l'antipyrine."

J. F. Bergmann, Wiesbaden.—W. Ebstein, "Die Zuckerharnruhr, ihre Theorie u. Praxis." (7*M.* 60.) —— E. Fick, "Ueber Mikroorganismen im Conjunctivalsack." (2*M.*)

E. Besold, Erlangen.—J. Rosenthal, "Vorlesungen über die öffentliche u. private Gesundheitspflege." (12*M.*)

F. Enke, Stuttgart.—J. Hock, "Propädeutik für das Studium der Augenheilkunde." (7*M.*)

T. C. F. Enslin, Berlin.—C. K. Aird, "Die Cholera 1886 u. die nach 55 jährigen Erfahrungen gegen dieselbe angewandten Schutzmittel." (10*M.*)

G. Franz, Munich.—N. Rüdinger, "Ueber künstlich deformirte Schädel u. Gehirne von Südseeinsulanern." (1*M.* 50.)

C. Gräser, Vienna.—F. Strohmer, "Die Ernährung des Menschen u. seine Nahrungs- u. Genussmittel." (4*M.*)

P. Hanstein, Bonn.—M. Gördes, "Genaue kritische Erörterung der verschiedenen älteren, neueren u. neuesten Verfahren beim Kaiserschnitt," etc. (1*M.* 80.)

Heuser, Neuwied.—A. Erlenmayer, "Die Morphiumsucht u. ihre Behandlung." (10*M.*) —— Schlegtendal, "Die Behandlung des Ileus mit Magenausspülungen." (0*M.* 75.)

A. Hirschwald, Berlin. — W. Gruber, "Beobachtungen aus der menschlichen u. vergleichenden Anatomie." (4*M.*)

Laupp, Tübingen.—S. P. Thompson, "Elementare Vorlesungen über Electricität u. Magnetismus." (6*M.*)

Rossberg, Leipsic.—H. Reuss, "Der Rechtsschutz der Geisteskranken auf Grundlage der Irrengesetzgebung in Europa u. Nord-Amerika." (9*M.*)

A. Stillkrauth, Eichstadt.—M. Biechele, "Anleitung zur Erkennung und Prüfung aller in der deutschen Pharmakopöe aufgenommenen Stoffe, sowie auch der neueren Arzneimittel." (3*M.*)

Urban & Schwarzenberg, Vienna.—A. Baranski, "Anleitung zur Vieh- u. Fleischbeschau für Stadt- u. Thierärzte sowie für Physikatskandidaten," 3d ed. (5*M.* 50.) —— A. Landerer, "Handbuch der allgemeinen chirurgischen Pathologie u. Therapie." Part i. (8*M.*) —— Von Mosetig-Moorhof, "Vorlesungen über Kriegschirurgie." (9*M.*)

Veit & Co., Leipsic.—J. Hirschberg, "Wörterbuch der Augenheilkunde." (5*M.*) —— H. Tillmanns, "Lehrbuch der allgemeinen u. speciellen chirurgie." Vol. i. (12*M.*)

BOOKS AND PAMPHLETS RECEIVED.

Treatise on Human Physiology. For the Use of Students and Practitioners of Medicine. By Henry C. Chapman, M. D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia, etc. Philadelphia: Lea Brothers & Co., 1887. Pp. xv–33 to 945.

The Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By Ira Remsen, Professor of Chemistry in the Johns Hopkins University. Third edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1887. Pp. xi–13 to 318. [Price, $2.]

On the Operative Surgery of Malignant Disease. By Henry T. Butlin, F. R. C. S., Assistant Surgeon and Demonstrator of Surgery, St. Bartholomew's Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–408. [Price, $4.]

A Dictionary of Terms used in Medicine and the Collateral Sciences By the late Richard D. Hoblyn, M. A. Oxon. Eleventh Edition, revised throughout, with Numerous Additions. By John A. P. Price, B. A., M. D. Oxon., etc. London: Whittaker & Co., 1887. Pp. viii–806. [Price, $3.75.]

Medical Fetichism and a Suggested Basis for a Science of Medicine. By Samuel S. Wallian, A. M., M. D. New York: Clark & Zugala, 1887.

Therapeutic Properties of the Greenbrier, W. Va., White Sulphur Water. By Thomas R. Evans, M. D., Mt. Carbon, W. Va.

One Year's Statistics of Lithotomy Operations performed in the Hyderabad Civil Hospital, Sind, India. By Surgeon-Major B. C. Keelan, Indian Medical Department, etc.

Seventh Annual Report of the State Board of Health of New York. Transmitted to the Legislature, January 19, 1887.

On Arrested Cerebral Development, with Special Reference to its Cortical Pathology. By B. Sachs, M. D., Instructor in Mental and Nervous Diseases at the New York Polyclinic, etc. [Reprinted from the "Journal of Nervous and Mental Disease."]

Intra-cerebral Hæmorrhage in the Young. By B. Sachs, M. D., etc. [Reprinted from the "Journal of Nervous and Mental Disease."]

Some Observations upon Pelvic Cellulitis. By Virgil O. Hardon, M. D., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Atlanta, Ga. [Reprinted from the "Atlanta Medical and Surgical Journal."]

Transactions of the Association of American Physicians. Second Session, held at Washington, D. C., June 2 and 3, 1887. Pp. xx–254.

Contributions to Gynæcology. Fasciculus 1. The Galvanic Treatment of Uterine Fibroids: Full Text of First Fifty Cases. By Ephraim Cutler, A. M., M. D., LL. D., etc.

Twenty-third Report of the Trustees of the City Hospital, Boston; with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of Training-school for Nurses, etc., 1886.

Coast Defenses against Asiatic Cholera. Report of an Inspection of the Atlantic and Gulf Quarantines from the St. Lawrence to the Rio Grande. By John H. Rauch, M. D., Secretary Illinois State Board of Health.

Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America. An Address delivered at the Opening of the National Conference of State Boards of Health, St. Louis, October 13, 1884. By John H. Rauch, M. D., Secretary Illinois State Board of Health.

A Manual of Organic Materia Medica, being a Guide to the Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third Edition. With Two Hundred and Fifty-seven Illustrations. Philadelphia: Lea Brothers & Co., 1887. Pp. xv–25 to 532. [Price, $3.]

A Short Manual of Surgical Operations. By Arthur E. J. Barker, F. R. C. S., Surgeon to University College Hospital, etc., London. With Sixty-one Illustrations. London and New York: Longmans, Green, & Co., 1887. Pp. vi–423.

A Hand-book of Diseases of the Skin, with Especial Reference to Diagnosis and Treatment. By Robert Liveing, A. M., M. D. Cantab., F. R. C. P. Lond., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, etc. Fifth Edition, revised and enlarged. London and New York: Longmans, Green, & Co., 1887. Pp. viii–451.

Erfahrungen eines Lungenkrankens. Von Dr. L. Friedmann, Arzt in Berka (Thüringen). [Sonderabdruck aus "Deutsche Medizinal-Zeitung."]

Report of Four Operations for the Removal of Cataract without an Iridectomy, and by an entirely New Method, with the Discussion before the Clinical Society of the New York Post-graduate Medical School and Hospital, March 21, 1887. By Francis Valk, M. D., Lecturer on Diseases of the Eye, New York Post-graduate Medical School and Hospital.

A Letter to the Rt. Hon. Lord Aberdare, Chairman of the Managing Committee of the Hospital for Sick Children (London). By Charles West, M. D., Founder of the Hospital, and for twenty-three years its Senior Physician.

The Variations of the Normal Knee-Jerk, and their Relation to the Activity of the Central Nervous System. By Warren P. Lombard, M. D. [Reprinted from the "Journal of Psychology."]

An Anthropometric Manual, giving the Average and Mean Physical Measurements and Tests of Male College Students, and Method of Securing them. Prepared from the Records of the Department of Physical Education and Hygiene in Amherst College, during the Years 1861–'62 and 1886–'87, inclusive. By Dr. E. Hitchcock, assisted by Dr. H. H. Seelye.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

Hæmopericardium from Ruptured Coronary Artery.—J. W. Batterham ("Lancet") reports a case of this rare condition. The patient, seventy-five years old, had suffered for some time from "slight fits," in which she struggled and lost consciousness for a few minutes. These fits were usually preceded by nausea. About an hour before death she complained of pain in the mammary region. She was found sitting in a chair dead by the servant. The autopsy, performed twenty-four hours after death, showed the heart enveloped in about four or five ounces of dark clot. There was no rupture of the heart or great vessels. On the posterior surface of the heart there was a slight pericardial ecchymosis, covering an area of about the size of a shilling, situated on the interventricular groove an inch from the apex of the heart. A fine aperture with ragged edges was discovered on the pericardium covering the center of this ecchymosis. The coronary arteries were tortuous and thickened, their coats containing numerous calcareous plates. Two small twigs coming from these vessels, passing into the center of the clots, seemed to be the source of the hæmorrhage. The valves were normal in appearance and the aorta was healthy.

The Blood in Pernicious Anæmia.—S. M. Copeman (*ibid.*) has made careful examinations of the blood of five cases of pernicious anæmia with the result of confirming most of the statements of other observers in this field and of discovering a new phenomenon. He always found the small red blood-corpuscles mentioned by Eichhorst. The number of red blood-corpuscles was much diminished, being as low as from 35 per cent. to 45 per cent. of the normal. The corpuscles were apt to change their form, becoming pyriform or spindle-shaped. When undergoing this change, the coloring matter tended to leave the corpuscles, some of which remained in amorphous masses. Rouleaux did not form, but the corpuscles appeared to adhere by their edges. The color of the corpuscles was much less intense than in health. In three of the cases it was found that the red corpuscles readily broke down, sometimes disappearing entirely, while sometimes a coarsely granular appearance was left. These specimens showed after a time an aggregation of rhombic crystals of hæmoglobin, the spontaneous appearance of which in anæmic blood had not been previously noticed. Charcot's lenticular crystals found in the blood in leucocythemia are considered by Gowers as a post-mortem phenomenon and not as peculiar to the disease.

The Ætiology of Rheumatism considered from a Bacterial Point of View.—Dr. Alfred Mantle ("Brit. Med. Jour.") draws attention to the circumstance that there are certain conditions of the body alike favorable to the development of rheumatism, scarlatina, and erythema nodosum. This, he says, argues that all these diseases are brought about by a similar poison. Holding these views, he set about making investigations in rheumatism. A drachm of serum was withdrawn, under the strictest antiseptic precautions, from the knee joint of a patient suffering with acute rheumatism. With this serum several sterilized tubes of gelatinized meat-infusion were at once inoculated, and in each tube a copious growth took place. He had found two kinds of bacteria—a micrococcus and a small bacillus. Cover-glass preparations of blood and serum showed micrococci as single cocci or pairs, and in acute cases zooglœa masses; in addition, small, short, thick bacilli were also seen, either single, in pairs, or in colonies. These bacteria were easily stained with methyl-violet, with fuchsine, or by Gram's method. In two cases of purpura rheumatica he found no bacilli. In one case of gonorrhœal rheumatism bacilli were found only in the blood. In chronic rheumatism and rheumatoid arthritis the bacteria were found. Might not the chemical products of these bacteria be lactic acid and thus form the chief ptomaine of the disease? The author found that cultivations of the bacteria of rheumatism, amygdalitis, erythema nodosum, and scarlatina, produced lactic-acid fermentation in sterilized milk.

Leprosy communicated by Vaccination.—Dr. W. T. Gairdner (*ibid.*)

relates fully the history and circumstances of two cases of leprosy that came under his notice which were due to vaccination with lymph taken from the arm of a leper. The cases occurred in a tropical island where leprosy is endemic. But the lepers were afterward sent to Europe for education, and in this way came under the personal notice of the author.

Ear-cough.—Percy Jakins ("Practitioner") relates an interesting case in which cerumen in the ears was the cause of pulmonary symptoms. The patient, a man, forty-nine years old, had caught cold four years before, which was attended by a troublesome hacking cough. Thirteen weeks before he came under the author's attention, emaciation, night sweats, delirium at times, and insomnia set in. The case was looked upon as one of phthisis, and a very unfavorable prognosis given. The author found mucous râles over both lungs and cerumen in both ears. On removal of the cerumen, improvement set in at once, and all the symptoms vanished within three months.

The Absorption Power of the Stomach as a Means of Differential Diagnosis.—P. Zweifel ("Dtsch. Archiv für klin. Med."; "Ctrlbl. f. klin. Med.") used iodide of potassium, which was detected in the saliva and in a few cases in the urine. The method was applied to twenty-one persons, and it was found that when the salt was administered on an empty stomach it was detected in the saliva in eight minutes. This period did not vary in healthy individuals on different days. It was also found that the period was much lengthened when the salt was given on a full stomach, and that great variations occurred in this respect on different days. In nearly every form of gastric disease the author found the period to be lengthened, most in dilatation and cancer of the stomach, and least in chronic gastric catarrh. In gastric ulcer with extensive recent changes in the mucous membrane, absorption is very much delayed. In cancer of the cardial end the period is considerably shorter than in cancer of the pylorus. If the period of absorption, fasting, extends to twenty minutes, then dilatation or cancer of the stomach or both may be diagnosticated. A differential diagnosis between cancer and ulcer of the stomach can not, according to the author, be made by the absorption test.

Observations on the Excretion of Peptone in Disease.—E. Maxiuer ("Ztg. f. klin. Med.," *ibid.*) has detected, according to a most careful method, peptone in the urine in empyema, pneumonia, pulmonary gangrene, tuberculosis, peritonitis, cystitis, and carcinoma. The maximum daily quantity was 5 grammes, 4·96 grammes, and 4·112 grammes. Although this is a small quantity when considered as nutriment which is withdrawn from the system, still the author is of the opinion that the observation is of importance, inasmuch as it is a criterion of the number of colorless blood-corpuscles that have undergone destruction. In pneumonia the peptonuria begins before the crisis, and continues for two or three weeks after it, rarely longer. In pleurisy the peptonuria is dependent upon the number of pus cells.

Typhus Bacilli in the Blood during Life.—Dr. L. Rütimeyer (*ibid.*), in view of the contradictory observations on this point, undertook to determine it by personal investigation. He followed Neubaur's method, and examined six cases of typhoid fever and thirteen cases of roseola. The result was negative in fifteen instances; in one instance, where the blood was taken from a severe case of typhoid fever, the result was positive.

Nerve and Ganglion Cells of the Human Heart, with Observations on their Pathology.—L. Eisenlohr (*ibid.*), after careful examinations of portions of the heart substance removed as soon as possible after death, and hardened in osmic acid and colored with picrocarmin, enunciates his conclusions as follows: 1. In the human heart are to be found, isolated and in groups, ganglion cells, more particularly in the auricular septum, less frequently in the auriculo-ventricular septum. They lie in the connective and adipose tissue under the pericardium. In the muscular substance itself the ganglion cells are absent. 2. The sheath of the nerve-twigs expands over the surface of the ganglion cells. 3. There are isolated ganglion cells which serve for the origin of medullated nerves. 4. Cells with two nuclei occur only isolated; in other respects they do not differ from the other cells. 5. Frequently irregular pigmentation of the cells takes place. 6. In each ganglion the medullated nerve-fibers form a complicated network. 7. No positive results could be obtained on the nerve endings in the muscle cells. Regarding the changes which the author found, such as swelling, enlargement, indistinctness of the nuclei, and changes in the protoplasm, he does not consider them as of pathological import, but merely physiological changes similar to what occurs in the nerves in their cyclical chemical processes. Undoubted pathological changes in the nervous apparatus of the heart have, so far, not been observed.

Prolonged Period of Incubation of Tuberculosis after Inoculation.—E. Gaucher ("Rev. de méd.") inoculated, September 29, 1884, two rabbits with the pus from a bone abscess of a patient in an advanced state of pulmonary tuberculosis. The injections were made deep into the peritonæum, on the left side of the upper part of the abdomen, so as to avoid the liver, and were not followed by any local disturbance. The rabbits were then placed in separate cages, and were put under the most favorable hygienic conditions. At the end of two years one of the rabbits showed signs of illness, became very much emaciated, and died within three weeks from the onset of the illness. At the autopsy the spleen and peritonæum were found tuberculous; the liver, though enlarged, did not present any appreciable lesion; and the abdominal lymphatic glands were neither hypertrophied nor caseous. There was a single caseous mass at the inferior part of the left lung on the surface of the diaphragm, where there was also a recent localized membranous pleuritis. At the time of writing (March 1, 1887) the other rabbit seemed to be in perfect health.

The Treatment of Ophthalmic Migraine.—G. de la Torrette and P. Blocq ("Progr. méd.") report a case of the second form of ophthalmic migraine described by M. Charcot in which the administration of bromide of potassium effected a cure. The patient was subject to attacks of migraine attended with disturbances of vision (scintillating scotoma) and with transitory motor aphasia. In addition to these symptoms during the attacks, he suffered with various disturbances of the sense of touch in different parts of the body. He took the bromide according to the following formula: 30 to 45 grains daily during the first week, 45 to 60 during the second week, 60 to 75 during the third week, and 75 to 90 during the fourth week. Then the series was begun over again. He took the medicine for nearly a year, and when seen fifteen months afterward he had been quite free from any attacks or from any symptoms of his former affection.

The Ætiology and Period of Incubation of Croupous Pneumonia.—R. Caspar ("Berlin. klin. Woch.") has carefully studied two hundred and four cases of croupous pneumonia which have come under his care within the past five years, with the view of determining the ætiological factors and the period of incubation of that disease. His cases occurred in epidemics, and he believes decidedly in the contagiousness of croupous pneumonia; a few cases which he observed favor this belief very much. One of the most striking instances was where a son from another village came to visit his father, who was lying ill with pneumonia. The son remained only part of the day and then returned to his village, which was entirely free from cases of pneumonia. Four days afterward he was taken ill with an attack of that affection. A number of other cases that the author observed made him draw the inference that the period of incubation was four days. He could not observe any meteorological conditions to explain the outbreak of the epidemics, nor during an epidemic did he notice that different conditions of the barometer had any influence upon the spread of the disease. His cases occurred also mostly during the first four months in the year. He does not consider, as some observers do, that pneumonia is secondary to bronchitis. He concludes his article as follows: 1. Fibrinous pneumonia is an infectious disease. 2. It is contagious. 3. Its period of incubation is four days. 4. Low temperature, slight absolute humidity, and strong winds seem to favor its spread.

The Absence of Hydrochloric Acid and Gastric Juice in Non-carcinomatous Affections of the Stomach.—J. Grundzach (*ibid.*) found five among several hundred patients that he had examined in Reichmann's laboratory, in whom there was absence of hydrochloric acid and pepsin in affections of the stomach which were not carcinomatous. In the first patient, thirty years of age, apparently well nourished, who suffered from frequent attacks of dyspepsia, the most prominent feature was vomiting, which came on two hours after eating. The cause was not clear. Case II was in a man, thirty-seven years of age, who was given to the abuse of alcohol and had suffered with dyspepsia for three years. He looked very well, but complained of weakness and anorexia. There was no dilatation of the stomach. Case III was observed in a patient, thirty odd years old, who had suffered with dyspeptic symptoms for years. He was not given to the abuse of alcohol. The most prominent symptom was vomiting, which came on usually at night. Dilatation of the stomach did not exist. The two other patients—one sixty-four years old, the other thirty—presented similar symptoms. The examination of the stomach contents of these patients gave the following results: 1. Considerable mucus of neutral reaction, and epithelial cells from the mucous membrane of the mouth, pharynx, and stomach were found, and in four of the cases shreds of bloody mucous membrane. 2. In none of the cases was there hydrochloric acid during the whole stage of digestion. 3. The motor power of the stomach did not seem to be at all disturbed. That these cases were not carcinomatous was concluded from the following: 1. The duration of the affection in each case being several years. 2. The considerable quantity of mucus, indicating a catarrhal nature. 3. The absence of any tumor. 4. The age of the patients. 5. The absence of cachexia. 6. The good condition of the general nutrition. The author would look upon the condition of these cases as being atrophic catarrh of the stomach. The treatment of such cases consists in washing out the stomach and in the administration of hydrochloric acid and pepsin. It was of great interest to note that, though the secretory functions of the stomach were *nil*, the mechanical function was intact. Another feature worthy of note also was the circumstance that the patients were well nourished in spite of there being no gastric digestion. It showed that the intestinal digestion was sufficient to maintain the nutrition of the body. The facts of these cases upset the theory broached by Brücke, and generally adopted, that the normal secretion of the gastric mucous membrane excites the motor function of the stomach. The presence of food would seem to be all that is necessary for that purpose.

[As interesting and singular as the facts relating to the foregoing cases may be, we think that the author was rather hasty at arriving at a conclusion. We should like to know for how long a period the patients were under observation, and had the contents of their stomachs examined microscopically and chemically. Their subsequent history would seem essential also in order to form an opinion of the nature of their malady. Cancer of the stomach is not infrequently preceded for years by simple dyspepsia, and may remain latent for a time, manifesting itself only by the absence of hydrochloric acid in the stomach. Atrophy of the mucous membrane is a very rare affection, its existence being denied by some very able pathologists. The few authentic cases on record have all been attended with very serious disturbances in nutrition and in blood formation. The patients in nearly all the cases were the subjects of progressive pernicious anæmia, which was looked upon as being caused by the condition of the stomach.]

Wolff and Ewald's communication (*ibid.*) is of interest in connection with the foregoing. Of seventeen patients that they had examined for a long period, it was found that there was an absence of hydrochloric acid during digestion in eight. Six made no complaint whatever of dyspeptic symptoms, and there could not be the slightest suspicion of cancer; one suffered from hysterical vomiting, which came on after the principal meal of the day. But that symptom had disappeared. The remaining patient was the subject of uterine cancer, and suffered with severe gastric disturbances. She died a few days before the publication of the article. At the autopsy, the stomach, bowels, and diaphragm were found entirely free from any cancerous nodules. A part from that found in the uterus, there were a few nodules, of the size of cherries, on the anterior and posterior surfaces of the liver. These eight patients were given thirty drops of dilute hydrochloric acid after each meal for fourteen days. At the expiration of this period the contents of the stomach were again examined, with negative results as to hydrochloric acid. The majority of the patients were well advanced in age, ranging from forty-four to eighty-one years. Ewald avails himself of the opportunity of rectifying a prevailing error as to his views on this subject. He quotes from a former article of his, in which he says: "The negative result with the usual hydrochloric-acid test forms a valuable support of the diagnosis of cancer, but is not a decisive sign of that affection."

A Case of Hemiatrophy of the Tongue, with Left-sided Paralysis of the Palate; Atrophy of the Left Sterno-cleido-mastoid and Trapezius Muscles, with Paralysis of the Left Recurrent Nerve.—Pel (*ibid.*) reports a case of this kind. Early in 1886 the patient, thirty-four years of age, began to suffer with difficulty in swallowing, regurgitation of fluids through the nose, and a nasal voice. He was not given to the abuse of alcohol; he presented evidences of a former attack of syphilis, but there was no lead intoxication. Apart from atrophy of one half of the tongue, the patient, who was very anæmic, had a soreness and a stiffness of the neck. An examination of the organs was negative; the temperature, pulse, and respiration were normal. The sense of taste and that of touch of the tongue were intact. There were no signs of tabes. The question arose as to the seat of the lesion. In reference to the atrophy, three probabilities obtained: (1) a peripheral disease of the accessory and hypoglossal nerves at a point where they lie in contact; (2) a disease of the nerve-trunk at the base of the brain; (3) an affection of the bulb. The author favored the latter view. It was difficult to decide upon the nature of the lesion, but the negative results obtained with antisyphilitic treatment would militate against its being syphilitic. In spite of the reflexes being normal, the probabilities were in favor of its being of tabetic origin.

Dyslexia.—The dread of reading is an important initial symptom of severe cerebral disease. Berlin was the first, in 1883, to draw attention to this condition. His six cases proved fatal. Nieden's case ("Dtsch. Med.-Ztg.") occurred in a man, thirty-nine years of age, who apparently was in the best of health. About six months before, his family noticed that he began to grow restless. Suddenly one morning, after a good night's sleep, he was seized with clonic convulsions, lasting for about half an hour. He recovered quickly from this attack, and exactly eight days afterward he had a similar attack. A few days after this he noticed that he could not look at print; when he did so, an unbearable sensation made him draw his head away. He now consulted Nieden, who examined the eyes carefully, and could find only a slight hypermetropia. The dread of reading remained unchanged during the summer, though his general health was excellent. On his return to the university in the autumn, he was taken with what appeared to be catarrh of the stomach, which was attended with rapid and disproportionate emaciation. He now suffered with headache, lassitude, and insomnia, and gradually passed into a state of stupor. The left pupil was larger than the right one, but reacted in unison with it, as well as by itself. During one day there was paresis of the right facial and the right extremities, but on the day following the paresis passed off. Two days after the stupor had set in the patient died. At the autopsy three apoplectic lesions of different sizes and ages were found. The largest and, at the same time, the oldest clot, which was of the size of a walnut, lay in the anterior part of the left corpus striatum. The second, of the size of a hazel-nut, was situated at the posterior border of the fornix. The third, apparently the most recent, was situated in the middle of the nucleus lenticularis. The walls of the blood-vessels showed no changes with the microscope. The remaining portion of the brain was normal. The author is of the opinion that the hæmorrhage producing the oldest and largest clot gave rise to the first attack of eclampsia, that the second was caused by the second hæmorrhage, and that the third and most recent hæmorrhage produced the paresis of twenty-four hours' duration. In Berlin's six cases the dyslexia was followed also by a cerebral affection. In addition to headache and vertigo, there were aphasia twice, right-sided hemianopsia once, motor disturbances of the tongue twice, right-sided paræsthesia twice, and right- and left-sided hemiplegia once each, in one case attended with right-sided clonic contractions. All the cases ended fatally. The patients ranged from thirty to seventy-two years of age.

Sudden Œdema of the Glottis as a First Symptom of Cirrhotic Kidney.—B. Fraenkel (*ibid.*) reported an interesting case of the kind before the Berlin Medical Society. The patient was suddenly seized with dyspnœa, and when the author saw him he was sitting on a chair and complaining of the want of breath. A laryngoscopic examination showed swelling of the epiglottis and of the arytæno-epiglottidean folds. As the patient was stepping into the carriage to be taken to the clinic, where tracheotomy was to be performed, he dropped dead. At the autopsy intense œdema of the epiglottis and the arytæno-epiglottidean folds was found. There was very marked contraction of the left kidney. The right kidney was enlarged and in a condition of parenchymatous swelling. The immediate cause of death was œdema of the larynx caused by the condition of the kidneys. There was absolutely no effusion in any other part of the body. The patient had never shown during life signs of any disease of the larynx. The whole duration of the illness was not more than an hour. The patient must certainly have suffered with albuminuria for some time, as the urine removed after death was rich in albumin. In the discussion that followed, A. Baginsky remarked that such a condition was observed also in the acute nephritis following scarlatina. De Bary, of Frankfort, had been the first to describe acute œdema of the glottis as a first symptom of scarlatinal nephritis. Since then a few cases of the kind had been recorded.

Amygdalitis Follicularis and Idiopathic Peritonitis.—J. Froehlich, an army physician (*ibid.*), has met with several cases of follicular amygdalitis among the soldiers in the garrisons. As observed by him, the disease begins usually with repeated chills, with more or less fever and dysphagia. The lacunæ of the tonsils are filled with a yellowish-white pus. The general condition of the patient is very much disturbed, and there are anorexia, headache, lassitude, and severe pains in all the extremities. In from one to three days, however, after profuse perspiration, the patient feels comparatively well. But one case which he observed and which ended fatally made him change his views as to the innocent nature of the affection. A soldier was taken ill on January 16th with headache and dysphagia, but did not report himself as sick till the 18th, when a follicular amygdalitis was recognized unattended with fever. On the following day, as he had some fever and frequency of the pulse, he was admitted into the hospital. That afternoon he became quite ill with what afterward proved to be peritonitis. He died on the morning of the 21st of January. The autopsy was made in the afternoon of the same day. Apart from enlarged tonsils and an enlarged thyreoid gland, there was found a peritonitis with fibro-purulent effusion. There was no disease of any kind of the mucous membrane of the alimentary canal. At the beginning of the autopsy Froehlich slightly wounded his finger; the wound was cleansed and painted over with collodion. That night he began to have pain in the finger, and on the next day there was lymphangeitis of the arm, with swelling of the axillary glands. On the second day the tonsils became affected with follicular inflammation. On the 24th of January the doctor's wife became ill with a similar affection of the tonsils. The pathological assistant who helped to perform the autopsy, in sewing up the abdominal and chest cavities, pricked his thumb a few times with the needle. He passed through a similar train of symptoms as the doctor, only that the onset was two days later. He also had during his illness an attack of follicular amygdalitis. All three, however, made a fairly good recovery. The author deduces from the foregoing circumstances that follicular amygdalitis is contagious and may at times prove a formidable disease. He looks at the peritonitis as being caused by the poisonous germs of the amygdalitis.

[The question of the infectiousness of follicular amygdalitis seems far from being settled. It seems in many cases to be a question of diagnosis, and one which is not easily solved in a given case. From not an inconsiderable experience we are inclined to concur with the opinions of Jacobi on the subject, as expressed in a paper read before the Academy of Medicine last year. These, as we understand them to be, are that follicular amygdalitis may be of catarrhal, purulent, fibrinous, or diphtheritic character. When it is of diphtheritic character (commonly known as punctate diphtheria) it is highly contagious, and may give rise to a very severe attack of diphtheria. The different varieties are not easily distinguished; hence it is better to err in the right direction and isolate every patient with follicular amygdalitis in the same way as if he were suffering with diphtheria.]

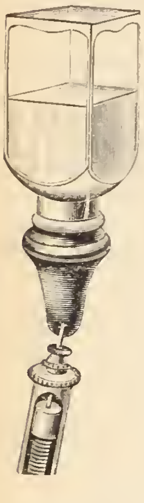
Idiopathic Hypertrophy and Dilatation of the Heart.—O. Bollinger, of Munich (*ibid.*), answers in the affirmative the still undecided question if hypertrophy and dilatation of the heart ever exist as an idiopathic affection. He publishes the pathological results of forty-two marked cases that came under his observation from March 1, 1883, to March 1, 1886. Of the patients, thirty-eight were men and four were women, their average age being forty-three years, the average weight of the heart being 535 grms., and that of the body 71 kgrms. All cases in which hypertrophy was found incidentally in any form of chronic or acute disease, in any valvular affection or endocarditis, or arterial sclerosis, were purposely discarded. The patients presented the clinical picture of weakness of the heart, and during life hypertrophy without any affection of the valves had been diagnosticated. Normally the ratio of the weight of the heart to that of the body is 1 to 216; in the foregoing cases the ratio was 1 to 132, the heart therefore being one third larger than the normal heart. The diagnosis also of dilatation was made after exact measurements. All patients above sixty years of age were excluded, as from that age up there are many senile complications which would disturb a clear view of the condition. The author found that both ventricles were hypertrophied, but the muscle fibers under the microscope showed little or no degeneration, so that neither the symptoms nor death could be referred to fatty degeneration. The patients were mostly strongly built, muscular persons, with considerable adipose tissue. The affection runs an acute or subacute course without any elevation, but not infrequently with a lowering, of the temperature. As to why this condition should be so common in Munich, Bollinger refers to the notoriety of the city as a beer center, and to the fact that the citizens are mostly plethoric. In beer-drinking three factors are at work: (1) the topical action of the alcohol, (2) the increased quantity of the circulating fluid through the ingestion of the beer, (3) the rich nutriment of the beer. In the consumption of rich and good food, with liberal quantities of wine, the same condition may be brought about. The author attributes an inferior rôle only to violent muscular exercise. Heredity acts only in so far as the constitution and habits of life are inherited. Repeated pregnancies never lead to this affection; on the other hand, the author asserts that the infectious diseases and acute rheumatism favor the acquisition of the disease. The cause of death is, in most cases, cardiac insufficiency, the origin of which is still obscure and, in the absence of a sufficient anatomical lesion, must be looked upon as of a functional nature.

The Morbid Anatomy of a Case of Tabes in which there was Absence of the Knee-phenomenon on One Side.—Westphal ("Fortschr. der Med.") describes the condition of the spinal cord of a patient who presented before death absence of the knee-phenomenon on the left side. On making cross-sections of the cord, the following interesting condition obtained: At the point of junction of the dorsal and lumbar portions, the zone of the entrance of the combined nerve roots (*Wurzeleintritts-Zone*) was found degenerated on the left side, while on the right side the degeneration was less intense and extended only just to the zone.

Hereditary Chorea of Adults (Huntington's Chorea).—Huber ("Archiv f. path. Anat. u. Physiol. u. f. klin. Med.") publishes in detail the symptoms and course of two cases of this exceedingly rare disease. According to Huntington, who first described it in 1872, hereditary chorea is characterized as follows: 1. It is inheritable, whole families being affected with it. If one generation escapes, the hereditary power of the disease is lost, as it has no tendency to reappear in the third generation, as other hereditary affections have. 2. It begins as an ordinary chorea, becomes aggravated to the highest degree, and often leads to mental aberration with suicidal impulses. It finally terminates in death; recovery from it has never been observed. It never occurs in youth, but is most frequently met with between the ages of thirty and forty years, seldom later, and attacks men and women in an equal ratio. In the first case the choreic movements were intense, affecting at times even the tongue and soft palate. There were no signs of paralysis nor any disturbances of sensation. The electrical excitability and the reflexes were normal. The disease had begun eight years before, manifesting itself by twitching of the eyelids, then of the mouth, and before a year had elapsed the choreic movements had extended to the shoulder, head, and arms. The patient's sister, his father, two paternal uncles, and the paternal grandfather and great-grandfather had been afflicted with the same disease. In another branch of the family the disease occurred also, but in a less pronounced form. The second case was observed in the sister of the first patient. She was forty-two years of age, and thirteen years before had begun to show some aberration of the mind. Six years afterward choreic movements began in the shoulder, and in two years they became almost general. A feature that characterized both patients was that with the voluntary movements the choreic became much less and even ceased.

New Inventions, etc.

AN IMPROVED CONTAINER FOR HYPODERMIC SOLUTIONS.



Dr. F. A. Castle writes to us as follows:

The credit of this affair is said to belong to some one connected with a New York hospital. I have never known who. The value of it in preserving solutions of alkaloidal salts—especially of morphine sulphate—is so great that it ought to be more generally known.

Instead of closing a phial, holding a solution for hypodermic use, with a stopper, draw over the orifice an India-rubber nursing-bottle nipple *without holes in its point.* To fill a syringe, push the needle through the rubber, tip the phial bottom upward, and draw the desired amount of solution into the syringe. When the needle is withdrawn, the puncture in the rubber will close, and prevent either escape of solution or entrance of air.

By properly sterilizing the solution and nipple, and using a clean needle, the solution will remain for a long time without change.

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Miscellany.

The Ancients' Ideas of the Arteries.—Dr. W. T. O'Donnell, of Kiowa, Kansas, sends us the following communication:

"The subjoined quotations have been made to show the falsity of the supposition that the ancients believed the arteries to contain only air. When we think of the mutilation that necessarily took place in their wars, and remember that they were fully alive to the necessity, as Celsus informs us, of close observation, and that they dissected criminals alive, as was done by Herophilus and Erasistratus ('*adhuc spirante homine*'), and when, too, we think of the derivation of the words *vena* and *arteria*—very suggestive of their true functions, bringing blood and transmitting oxygen—we can not but doubt the assertion that they believed the arteries to be for air only. However, the supposition is refuted by the quotations, which have been arranged with a view to their contradiction. We submit them in the original Latin or Greek, lest there be cavil concerning the translation. We are not of those who think that Harvey did not make known the circulation of the blood to modern Europeans, or that Columbus did not discover America to them. Nevertheless, we do believe there were large cities filled with men in America years before Columbus's birth; so that some man preceded him. So with anatomy and the vascular system. We do not know the extent of the knowledge of the ancients. A bivalve speculum is reported to have been found at Pompeii, and we have reason to infer that the science of medicine was more cultivated than the fragments of ancient medical literature now possessed might lead us to believe. The boy thinks himself wiser than his father; and, if verbiage were wisdom, surely modern medical writings, teeming with words which the writers themselves do not understand, might seem to verify it. To these boys, while we advise them to keep abreast of the times, even reading of the drug which 'cometh forth like a flower and is cut down,' we recommend the reading of ancient medical literature. Many supposed modern ideas will be found to be ancient, or showing that the mind of man tends to a common channel. Go to the original fountains and drink of the pure water, and do not accept it imbibed and excreted by the modern medical writer. In the first quotation Hippocrates distinctly states that the arteries receive pure blood and spirit. Everywhere he seems to make a distinction between πνεῦμα and ἀήρ (*spiritus et ventus*), or, in other words, to imply that πνεῦμα is a principle from ἀήρ.

"In the fourth quotation I have given what Mr. Druitt says Celsus related, and have then quoted that which he actually did relate, not as his own opinion, but that of another—namely, Erasistratus. It appears that the ancients noticed the dusky face and bluish lips of those having fever, and correctly attributed them to a transfusion of venous blood into the arteries; hence τῦφος, or smoke fever. And the reasoning of Erasistratus is similar to that of those of the present day who, having discovered that minute organisms exist in certain diseases, attribute the cause of the disease to these minute organisms, forgetting that nature has ordered that matter endowed with the vital principle is exempt from being consumed by all those agencies that assist nature to distribute the detritus of life to the original elements. Thus, the maggot devours the horse only after death, and it is possible the germs found in consumption perform only the same work, and that the true disease is, after all, the patient's peculiar physical condition, named by Hippocrates καχεξία. I have quoted from Quain's 'Anatomy' and Hooper's 'Dictionary' to show that the moderns promulgate as a fact that the ancients considered the arteries for air, and only air. But in the quotation from Celsus, Lib. II, Cap. x, he says that if you cut the artery it will not get well or heal, and that sometimes there will be violent hæmorrhage. If nothing was there but air, only air could escape if the artery was cut. Why, then, did he fear hæmorrhage, and why does he, in Lib. VII, Cap. v, direct in surgical operations that the artery shall be carefully drawn aside from the knife with a blunt hook; and, again, why does he, Lib. V, Cap. xxvi, state that an injury of an artery is a bad wound? Does not all this imply that he, or some person prior, had seen arteries cut and wounded? If so, they must have beheld the result, and therefore must have known their contents to be blood. Again we must advise the younger members of the profession to study ancient medicine. It is true, '*ars longa, tempus præceps*' (Hippocrates)—art is long and time is fleeting—and for this very reason it should be learned as tending to save time in groping personally for facts already known, and as saving us from publishing, with 'words of learned length and thundering sound,' methods as our own long since trite and recorded.

"'*Arteriæ quidem a corde purum sanguinem et spiritum recipiunt.*' (Hippocrates, 'De structura hominis ad regem Macedonum.')

"'Τοῦτο δὲ τὸ ὑγρὸν ἀπάγει τοῦ πλεύμονος ἅμα τῷ ἤερι. Idem Latine: *Hunc itaque humorem cor de pulmone una cum aere abducit.* (Hippocrates, 'De corde.')

"''Ῥίζωσις ἀρτηριῶν καρδὶν, ἐκ τούτων ἀποπλάναται ἐς πάντα αἷμα καὶ πνεῦμα.' Idem Latine: *Radicatio arteriarum cor; ex his aberrant in omnia sanguis et spiritus.* (Hippocrates, 'De alimento.')

"'Thus, in the time of the ancients, when the arteries were believed to hold air, it passed for a decent theory of inflammation to assume that blood had found its way into them, as Celsus narrates.' (Druitt's 'Surgery.')

"'*Alia si sanguis in eas venas* [sc. *arterias*] *quæ spiritui accommodatæ sunt transfunditur, et inflammationem, quam Græci* φλεγμονήν *nominant, excitat, qualis in febre est, ut Erasistrato placuit.*' (Celsus, Lib. I.)

"'These vessels [the arteries] were so named from the notion that they naturally contained air. This error, which had long prevailed in the schools of medicine, was refuted by Galen, who showed that the vessels called arteries, though for the most part found empty after death, really contained blood in the living body.' (Quain's 'Anatomy.')

"'Arteriæ; so called because the ancients believed they contained air only.' (Hooper's 'Dictionary.')

"'*Mittere autem sanguinem, quum sit expeditissimum usum habenti, tamen ignaro difficillimum est; juncta enim venæ arteria, his nervi: ita, si nervum scalpellus attingit, sequitur nervorum distentio, eaque hominem crudeliter consumit. At arteria incisa, neque coit neque sanescit; interdum etiam, sanguis vehementer erumpat, efficit.*' (Celsus, Lib. II, Cap. x.)

"'*Præter hæc malum vulnus est quodcumque in alis, vel feminibus, vel inanibus locis, vel in articulis, vel inter digitos est; item quodcumque musculum, aut nervum, aut arteriam . . . læsit.*' (Celsus, Lib. V, Cap. xxvi.)

"'*Summa autem utraque parte habenda cura est, ne nervus, ne vena major, ne arteria incidatur. Quorum ubi aliquid detectum est, excipien-*

dum hamo retuso est, abducendumque a scalpello.' (Celsus, Lib. VII, Cap. v.)"

The New York Academy of Medicine.—At the next meeting of the Section in Ophthalmology and Otology, to be held Monday evening, the 21st inst., the chairman, Dr. H. Knapp, will present the subjects of "Sarcoma of the Iris" and "Malignant Epicorneal Tumors," with the demonstration of specimens.

At the next meeting of the Section in Laryngology and Rhinology, to be held Tuesday evening, the 22d inst., Dr. J. W. Gleitsmann will read a paper on "Hypertrophy of the Tonsil of the Tongue."

At the next meeting of the Section in Obstetrics and Diseases of Women and Children, to be held Thursday evening, the 24th inst., Dr. H. C. Coe will read a paper on "The Use of the Curette for the Relief of Hæmorrhage due to Uterine Fibroids"; Dr. M. Putnam Jacobi will read a "Note on the Symptoms and Causes of Uterine Displacements"; and Dr. Augustin H. Goelet will report a "Case of Complete Prolapsus of the Uterus and Bladder of Fifteen Years' Standing."

At the next meeting of the Section in Materia Medica and Therapeutics, to be held Friday evening, the 25th inst., Dr. A. Jacobi will read a paper on "Feeding in the Diseases of Children."

The Hygeia Water in London.—In its issue for October 29th, the "Lancet," of London, says:

"Among the exhibits at the American Exhibition was an apparatus for the distillation of water, the property of the Hygeia Water Company of New York. The water is first distilled and subsequently aerated, so as to give a little more agreeable taste than is proper to mere pure distilled water. Care is taken, by Professor Tyndall's method, to deprive the air so used of all micro-organisms and other impurities; and some method is also used to destroy such elements in the water itself previous to distillation. The result is a very pure water, which is said to be extensively used in New York in the manufacture of mineral waters, etc., and to be very much recommended by the medical faculty there. Of course, our great water supplies should be so pure as to make us independent of particular methods of distillation for ordinary drinking purposes. Would they were so. Meantime an apparatus such as that noticed above is highly important and of great public value."

The Health of Boston.—During the week ending Saturday, November 5th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 25 cases and 12 deaths; scarlet fever, 73 cases and 13 deaths; typhoid fever, 22 cases and 4 deaths; measles, 6 cases. There were also 28 deaths from consumption, 26 from pneumonia, 10 from bronchitis, and 1 from marasmus. The total number of deaths was 194, against 171 in the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 11th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 22d corresponded to an annual rate of 19·8 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Norwich, viz., 15·7, and the highest in Manchester, viz., 26·4 in a thousand. Small-pox caused 7 deaths in Sheffield and 1 in Bristol.

London.—One thousand five hundred and sixty-six deaths were registered during the week ending October 22d, including 18 from measles, 58 from scarlet fever, 21 from diphtheria, 36 from whooping-cough, 17 from enteric fever, and 11 from diarrhœa and dysentery. There were 370 deaths from diseases of the respiratory organs. Different forms of violence caused 61 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 19·4 in a thousand. In greater London 1,913 deaths were registered, corresponding to an annual rate of 18·4 in a thousand of the population. In the "outer ring" 10 deaths from diphtheria, 9 from scarlet fever, 8 from measles, and 6 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 22d in the sixteen principal town districts of Ireland was 21·9 in a thousand of the population. The lowest rate was recorded in Lisburn, viz., 9·7, and the highest in Drogheda, viz., 38·1 in a thousand.

Dublin.—One hundred and sixty-three deaths were registered during the week ending October 22d, including 5 from measles, 4 from whooping-cough, 8 from scarlet fever, 6 from enteric fever, and 6 from diarrhœa. Diseases of the respiratory organs caused 32 deaths. Five accidental deaths were registered, and in 21 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 24·1 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 22d corresponded to an annual rate of 19·1 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 13·3, and the highest in Perth, viz., 34 in a thousand. The aggregate number of deaths registered from all causes was 478, including 5 from measles, 22 from scarlet fever, 7 from diphtheria, 16 from whooping-cough, 6 from fever, 10 from diarrhœa, and 2 from small-pox.

Messina.—The United States consul, in his dispatch dated October 12, 1887, says:

"Messina numbers within its old walls 70,000 inhabitants. The narrow streets of one fourth of the city proper, the most densely populated section, are unpaved. The suburbs, with a population of 50,000 inhabitants, are also unpaved. As there is a sad lack of privies throughout the city, slops are thrown into many of the streets. The sewers, insufficient in number, empty on a narrow strip of beach that runs along the quay; this beach is exposed to the sun except at high tide. The tide in the Straits of Messina is about ten inches. There are no means of flushing these sewers; the winter rains alone cleanse them. During the summer, the dry season, the sewer-gratings are tightly plugged up, as the stench from them is very great. The drinking-water is drawn from wells and public fountains fed by mountain-streams, which are generally tapped too near the town; frequently the water, before it has entered the porous earthen pipes, has been used by the country people for washing purposes. As stated in my dispatch No. 39, dated September 13th, but 2 cases of cholera occurring from August 27th to September 8th, confidence was restored and refugees returned to the city in great numbers for the municipal election of September 8th. On September 10th the epidemic broke out most suddenly, and in an aggravated form. For ten days the disease ran its course unchecked. The greatest number of deaths (there is no record of the number of cases) were reported September 14th, 256 in twenty-four hours. On the 20th arrived Professor Canalis, sent by the minister of the interior. He at once took charge of the sanitary bureau, disinfected certain portions of the city, established steam-engines to supply the citizens with boiled water, ordered pure drinking-water to be sent from the continent, and closed the wells and fountains. As soon as these salutary measures were carried out the epidemic abated, and atmospheric changes ceased to influence the disease. The cessation of the scourge is due to Professor Canalis's energy. Well-boats will continue to supply the city with drinking-water until pure water from the mountains can be introduced; pipes are now being laid for that purpose. The recent epidemic resembles in character the Tonquin cholera, introduced into Europe a few years ago by the French. It has become, however, somewhat modified, the first two stages running rapidly into the third, the three stages not being well defined, as in Asia. The remedies used in the first stage were laudanum and chlorodyne and hypodermic injections of morphine, the limbs being rubbed with spirits of camphor or brandy. In the cold stage hypodermic injections of a solution of citrate of ammoniated iron have proved of great value. . . . Between September 10th and 25th 34 per cent. of persons attacked died. A visit to the cholera burying-ground three days ago showed the mortality to have been greater than reported, 2,100 corpses having been interred there since the outbreak. During the epidemic soup-kitchens were opened for the indigent. . . . The cholera was particularly fatal to the old, the weak, and the very young, and was confined, with but few exceptions, to the poor. The epidemic is now virtually over; but 4 cases and 1 death have been reported for the last twenty-four hours. The streets are still deserted, and commerce and trade are at a stand-still. Quarantine has not been enforced in the Sicilian ports this past season."

Palermo.—The United States consul, in his dispatch dated October 17, 1887, relative to cholera in that city, states that "only 5 cases thereof and 7 deaths occurred therefrom during the seven days ending the 16th instant, a diminution of 6 cases and of 1 death compared with last week. The 2 deaths in excess of the cases reported are from the preceding week."

Rome.—The United States consul-general, in his dispatch dated October 16th, relative to cholera, states that "from October 8, 1887, to and including October 15, 1887, there were buried in this city 16 persons who had died of cholera. On October 15th there were from 20 to 25 cholera patients in the lazaretto, and about 100 persons in the house of observation, who had been exposed to the disease."

Santiago de Cuba.—The United States consul states, under date of October 29, 1887, that "small-pox may be said to have disappeared as an epidemic, only 1 death and 3 invasions having been recorded for the week. Scarlet fever has gradually decreased, only a few cases and no deaths being noted. Yellow fever still exists at the military hospital among the soldiers, but causing less deaths than last week, only 3 being recorded, and 5 cases. One case also has appeared in the town, but the patient recovered. . . . The port is perfectly clean, no sickness having been noted on any of the vessels."

Ning-Po.—The United States consul, in his dispatch dated September 29, 1887, says:

"I have to report, as to the health of this village and city, there is a marked change for the better. There is no sickness among our foreign population in the village."

Havana.—Seven hundred and ninety-two deaths are reported for the month of October, 1887, including 35 from yellow fever, 270 from small-pox, 14 from enteric fever, 2 from bilious fever, 20 from pernicious fever, 5 from diphtheria, 6 from croup, and 1 from measles. The sanitary inspector reports that "small-pox is reported as extending itself to different places in the island, and Matanzas is said to be suffering from it. It is believed that the percentage of mortality is not as great as it was a month or two ago, but the number of cases has not diminished."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	October 15.	2,260,045	847	..	....	5	....	21	5	18
Glasgow	October 22.	487,948	186	..	....	....	....	....	7	3
Warsaw	October 8.	439,174	267	..	....	17	....	....	11	12
Amsterdam	October 15.	378,686	131	..	....	....	....	....	....	5
Rome	August 20.	300,467	151	..	....	1	....	7	....	....
Rome	August 27.	300,467	148	..	....	2	....	3	....	....
Munich	October 15.	269,000	130	..	....	....	....	1	2	3
Belfast	October 15.	224,422	98	..	....	....	2	1	2	1
Havana	October 27.	208,000	172	..	9	58	....	4	....	....
Leipsic	October 22.	170,000	48	..	....	....	....	1	1	4
Trieste	October 15.	148,245	74	..	...	8	....	1	1	1
Stuttgart	October 22.	125,510	27	..	....	....	....	....	....	1
Toronto	October 29.	125,000	26	..	....	....	...	2	....	3
Leghorn	October 23.	101,357	45	..	....	...	....	1	3	....
Cienfuegos	October 24.	35,464	17	..	2	2	....	2	....	....
Gibraltar	October 16.	23,631	8	..	....	1	...	....	....	....

UNITED STATES.

New York Quarantine—Cholera.—Dr. William M. Smith, health officer, telegraphs as follows, under date of November 8, 1887:

"There have been no cases of cholera among passengers of Alesia for last twenty-three days. None among those of the Britannia for eleven days. I have reason to believe there will be no further developments among these immigrants."

Tampa, Fla.—Yellow Fever.—The total number of cases to 10th instant is approximately 350; total deaths, 61. Total number of cases for the week ended the 9th instant, 22; total number of deaths for the week, 13. Total number admitted to hospital, 39; total deaths from hospital, 3; remaining in hospital under treatment, 16. New cases for yesterday, 7; in the country, six miles from town, 2—total, 9; 1 death.

November 11th: "Four new cases and 2 deaths. Authentic information reaches here that yellow fever has appeared in Manatee. Three deaths. Doctors divided in opinion. I hear there are about 16 cases. Population about 300."

ANSWERS TO CORRESPONDENTS.

No. 87.—In the expression "A. C. E. mixture," the letters are abbreviations of the ingredients, alcohol, chloroform, and ether.

No. 88.—You will find the "anatomist's snuff-box" described in a book entitled "Practical Dissections," by Dr. R. M. Hodges, of Boston, published in 1858 by J. Bartlett, Cambridge, Mass.

No. 89.—We advise you not to set up in the practice of a specialty until you have had several years' experience in general practice. Even then, you had better fall gradually into a special practice as the result of circumstances than be casting about for one that will enable you to live a life of ease.

No. 90.—Each of the cautery batteries you mention—Byrne's, Dawson's, and Piffard's—is an excellent instrument.

No. 91.—We learn that the instrument continues to prove satisfactory in the hands of its inventor. We are not aware that it is used by others, or that it can be found ready-made in the shops.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

EFFECTS OF VARYING RATES OF STIMULATION ON THE ACTION OF THE RECURRENT LARYNGEAL NERVES.

Preliminary Communication from the Physiological Laboratory of the Harvard Medical School.

By FRANKLIN H. HOOPER, M. D.,
BOSTON.

In a paper recently published in the "New York Medical Journal"* I gave the results of my observations regarding the effects on the glottis following electrical stimulation of the recurrent laryngeal nerves. My experience has taught me that when in unnarcotized or slightly narcotized dogs these nerves are stimulated with the feeblest current of electricity, the first effect noticeable is a vibratory movement of the vocal bands, followed immediately by a closure of the glottis as the strength of the current is increased.

Dr. F. Donaldson, Jr.,† however, has arrived at different conclusions. He maintains that stimulation of the recurrent nerves with weak currents invariably produces an opening of the glottis.

I have been much interested in trying to find out how there could be two opinions on a question which was so purely a matter of fact and observation, and one so readily demonstrable. My experimental studies have been so numerous during the past few years that I have felt justified in believing that under normal conditions weak stimuli did *not* effect an opening of the glottis. I have also had no doubt that with time this subject would rest upon a firm and scientific basis, and that all divergent views would be satisfactorily explained.

In October last Professor Bowditch called the writer's attention to a paper in the "Centralblatt für Physiologie," September 3 and 17, 1887, Nos. 12 and 13, by N. Wedensky, entitled "Ueber die Ursachen des Ritter-Rollet'schen Phänomens am Fusse des Frosches." This observer records that with a slow rate of stimulation of the sciatic nerve in frogs flexion of the leg is produced, while with more rapid rates flexion gives place to extension.

When Professor Bowditch, in his article on "The Action of Sulphuric Ether on the Peripheral Nervous System,"‡ had pointed out that there was a striking resemblance between the action of ether on the nerves and muscles of the frog's leg and that which we had observed on the larynx, it seemed probable that Wedensky's results with varying rates of stimulation might also find a parallel in the behavior of the glottis on irritation of the recurrent nerves in the same way. From my researches in this direction, which are at present under way, I feel inclined to suspect that the reason that other observers have obtained dilatation with feeble currents is to be found in the slow rate of vibration of the interrupters they have employed. In other words, the *rate of stimulation* is an important factor in determining the results of stimulating the recurrent laryngeal nerves.

I propose to pursue this subject, and to study the effects of varying rates of stimulation upon animals under the influence of different narcotics. As yet I have experimented only on chloralized dogs. The results have been so marked and constant as to warrant the following summary:

1. Slow rates of stimulation (18 to 28 a second) with weak currents produce opening. By increasing the rates (30 to 40 a second), the intensity remaining the same, closing is called forth.
2. Strong currents with slow rates produce closing.
3. Rapid rates with weak or strong currents produce closing.

A CONTRIBUTION TO GLYCOSURIC DIACETONURIA.

By FRANK DUDLEY BEANE, A. M., M. D.

In view of much that has been written upon the prognostic importance of diacetonuria, I think the following case may prove of interest:

The patient, a portly American, lately deceased at the age of sixty-eight years, came under my care during October, 1882, for what I diagnosticated as glycosuria, mitral insufficiency with cardiac hypertrophy and usual accompaniments, and chronic deforming rheumatism of the hands. She had led a very active life, been exposed to many hardships in California, and for several years absorbed in speculation, with consequent worry and mental strain. Married, and the mother of several children. For years she had used alcoholic stimulants. No anasarca, ascites, signs of organic, hepatic, or renal disease were present, but indigestion and flatulent distension of the abdomen were quite troublesome. The daily quantity of urine passed averaged 2,500 c. c., and contained about 5 per cent. of glucose on the average. Suitable diet and an arsenical preparation quickly controlled the glyco-polyuria, only to reappear temporarily during imprudence in diet, so that in the following March she returned to California much improved in health. In May, 1885, she returned, acknowledging a disregard of my advice upon diet, presenting her old symptoms *plus* failing eyesight, due, as I found, to immature cortical cataract, right, and a few striæ in the left lens. I did not again see her till March 25th last, when the right cataract was almost mature, the left only permitting V = 0·1; the heart showing signs of fatty degeneration (absence of cardiac impulse, very feeble valvular sounds, pulse intermitting and varying in rapidity, fullness, and strength); enlargement (fatty?) of the liver; digestion much impaired, with considerable distress from flatulence; some loss of flesh, with real advantage; urine about 2,000 c. c. daily, acid, specific gravity 1·019, glucose 1 per cent. (fermentation saccharometer estimate); no albumin, acetone, diacetone, or casts. Strict animal diet, with gluten bread, and Jambul seeds (from Hazard, Hazard, & Co.), 0·33, then 0·66 gramme, after each meal for a week, produced no effect upon the glycosuria, despite the statements made for the East Indian remedy. The same diet and Clemen's solution of arsenic had reduced, at the end of a month, the daily average of urine one half, the glucose to ¼ per cent. On May 6th the medicinal treatment was changed to pills of codeine (each 0·10 gramme). Two days later a mild, limited attack of dry, rheumatic pleurisy appeared, and lasted three days. The pulse reached 120, temperature 101·9° F., respirations 24; slight mental wandering at times; the daily quantity of urine averaged 1,500 c. c. throughout the attack; *glucose absent*, but *marked presence of diacetone* (*i. e.*, the substance which gives the Bordeaux-red reaction on the addition of ferric chloride). Immediately followed subacute rheumatism in hands, wrists, and ankles, and on May 16th she became quite somnolent, sleeping heavily all night despite the joint-pains, not induced by opiates. The drowsiness continued the next day, with hallucinations, illusions, and muttering delirium at intervals: she was rational when aroused, but dropping into a momentary doze while answering. During the next four days but little change occurred; the pulse 120 (when controlled by ammonia and convallaria, only 90, fuller and more regular); temperature and respiration normal, some dyspnœa; subcrepitant *dry* râles throughout the right, but only distinguishable in the lower lobe of the left lung; the urine, 1,200 to 2,000 c. c.; no glucose, albumin, etc.; *rich in diacetone*, and urea (only 12 to 14 grammes) much below the normal. Then followed a week of moderate rheumatic pains, clear mind, and the urine free from abnormities, although the diet had been unrestricted (in reality the patient ate very little). A more extensive rheumatic outbreak (including all the large joints) succeeded, with only moderate fever, but high, weak, very intermitting pulse, drowsiness with great irritability, little or no real sleep, some mental confusion; urine, 4,000 to 5,000 c. c.; negative, except very *strong of diacetone.* Greatly reduced in strength by these attacks; on June 6th, 7th, 8th, and 9th, heart and respiratory failure appeared; pulse, 140 to 165, very irregular and intermitting; respirations, 36 to 44, shallow, labored, with *moist* subcrepitant râles throughout the lower half of the lower lobes of each lung; extremities cool, prostration great, dry, brown tongue, mind clear, urine negative. By aid of wonderful vitality and *will*, with the free use of stimulants, she nullified my prediction of a near fatal issue, as, four days later, her heart-beats were 120, fuller, stronger, and less irregular; respirations 24, and the moist râles vanished. I saw her for the last time on June 24th, when her pulse was 130, feeble, intermitting; respirations, 24; mind clouded by morphine (for four days received from a homœopathic "friend"); urine, 4,500 c. c., negative. I heard she had been out carriage-riding eight or nine days later; about ten days thereafter she was heard of at Saratoga Springs. On September 13th death took place suddenly, according to the coroner's inquisition report, from "syncope from organic cardiac disease." Unfortunately, no autopsy was held. A newspaper article, several days after her death, first apprised me of the patient's demise.

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* "The Anatomy and Physiology of the Recurrent Laryngeal Nerves," "N. Y. Med. Jour.," July 9, 16, 23, and August 6, 1887.

† "New York Med. Journal," Aug. 6, 13, 1887.

‡ "American Jour. of the Med. Sciences," April, 1887.

At no time was a "fruity," ethereal breath present, but during the rheumatic attack the ordinary sour perspiration odor was noticeable.

No codeine was administered during the second attack from fear of possible influence upon the genesis of diacetonæmia, inasmuch as it had so speedily dissipated the glycosuria. On the theory of danger from diacetonæmia, frequent moderate doses of sodic bicarbonate and aromatic spirits of ammonia were given, with seemingly good effect during the first but without value during the second attack. The somnolency and other head symptoms were quite as much due to the decreased elimination of urea as to any other cause, as, although the bowels were kept well open daily, purgation produced a marked good effect.

The practical deductions from this case would seem to be:

1. That in some cases of suppressed glycosuria unknown chemical changes in the liver-sugar occur, thereby poisoning the system with organic acids and resulting in acute rheumatic processes.

2. That such intimate intra-systemic chemical changes further find expression in the elimination through the urine of a substance which gives a more or less intense claret-wine reaction on the addition of ferric chloride, denominated diacetic acid by the best authorities.

3. That the detection of this substance does not furnish a basis in all cases for prognosticating a speedily fatal issue. Von Jaksch and others emphasize this point.

261 West Eleventh Street.

ASEPTIC PRECAUTIONS IN PRIVATE OBSTETRIC PRACTICE.*

By JAMES P. MARSH, M. D.,
GREEN ISLAND, N. Y.

The desirability of strict aseptic precautions in hospital obstetric practice may now be said to have been completely demonstrated, but as to how far like precautions can be followed by the majority of the profession in private practice is still a subject for speculation. The number of physicians who have a regular aseptic treatment for all their private obstetric patients is very small, and this number does not appear to be materially increasing. Nor shall we be able to reduce the number of cases of puerperal fever to a minimum until every physician has made it an article of the obstetric creed that every case of this disease which occurs in his or her practice is an evidence of some want of care, or of defective precautionary measures on his or her part. It may be that occasionally we should have to look far to find our oversight; and be it granted, for the sake of argument, that there is a puerperal fever *sui generis*, nevertheless, should we found our precautions on the theory that we were *always* personally responsible for the disease, and that it could have been avoided, it is evident that puerperal fever would soon become as rare a disease as myxœdema.

In considering this question of the aseptic precautions to be followed in the management of ordinary labors, we find that it naturally separates itself into two divisions—namely, as regards normal and abnormal labor—and that in either case we have to consider:

First, the obstetrician;

Second, the woman to be delivered; and

Third, the surroundings of the patient (the environment).

Firstly, then, we turn our attention to the obstetrician himself. In these days of enlightenment it is only the man who is by nature clean in all his habits who may expect success in either surgical or obstetric practice. There are times in the conduct of special and exceptional cases of childbirth when the practitioner in charge attempts to use aseptic or antiseptic precautions, which, it may be added, usually prove futile, simply because, with him, aseptic treatment of ordinary cases has never become a habit. He fails of protecting his patient from sepsis, as most men do with anything on the first trial, and ever after has no faith in asepsis. To such men the occurrence or the non-occurrence of puerperal fever is a matter of "luck." They have failed to comprehend the fact that asepsis and antisepsis must be, with every accoucheur, a habit of the mind and body before he will meet with that unfailing success in practice following upon the aseptic treatment of the parturient woman. Again I repeat that he only is a competent aseptic accoucheur who is one without ever especially thinking of it; who from long practice adopts every precaution in its due order.

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* Read before the Medical Association of Troy and Vicinity, November 1, 1887.

Many times practitioners have been told that they must not attend cases of labor immediately after coming from autopsies or cases of contagious disease, and yet how many are there that pay any heed to these instructions? Time after time they stand by the bedside of a woman dying of fulminating puerperal fever, carried to her directly from the operating-table where an operation, without any antiseptic precautions, has been done upon gangrenous tissues; and yet no glimmer of light illumines the sable darkness of their minds, no mortality of their lying-in patients is so great as to stir them to seek the causes of the disease and its prevention; but, still plunged in a Stygian abyss of conservatism, they go home to damn their luck and to poison the next woman whose malign fate places her in their hands.

But, whereas there are many who change not even a coat before going to a case of labor after coming from a case of contagious disease, there are a few who have a special coat for confinement cases, which they have thus used for years, and consequently, from the amount of blood and amniotic fluid contained on it, the coming of the doctor is known from afar off. If the practice of the one is reprehensible, how much more so is that of the latter!

However, of all points in regard to himself, the accoucheur must pay most attention to his hands. It is no exaggeration when I say that the most important instruments in my obstetric bag are a nail-brush and a cake of Stiefel's "sublimate soap." To me it seems evident that these two articles ought to be the first *instruments* procured by every person who proposes to practice obstetrics. Having arrived at a case of labor, unless there is special urgency, the first thing that should be done is to thoroughly scrub the hands and the arms as far as the elbows with the brush and a suds made from the "sublimate soap." After this has been performed, by the aid of a penknife the finger-nails should be freed, both above and below, from any particles of dirt which may have escaped the brush, and then the hands ought to get another scrubbing. By way of digression it may be mentioned that all the nails, excepting the one on the index finger of the right hand, ought habitually to be worn short. As regards the exception referred to, I find that many physicians leave this nail long to aid in rupturing the membranes, but I have found that the length of this nail may be materially shortened without interfering with its utility by leaving the corner of the nail toward the thumb sharp and training it to form a right angle. Having cleansed the hands, the question arises as to the lubrication of the examining finger. It is my custom to keep on hand a dozen tin boxes holding about half an ounce of carbolized vaseline (5 per cent.), one of which is opened for each case, and not used in any subsequent one. This aseptic vaseline I use for lubricating purposes, and I deem it an important point in the aseptic precautions. And here let it be remembered that there should be no more examinations made than are absolutely demanded in order to ascertain the presentation or further progress of the labor. The more frequently the examinations are made, the greater the liability of infection.

Having said so much in relation to the obstetrician himself, and remembering what I consider to be the truth, that ninety-nine per cent. of the aseptic precautions are to be directed toward the physician himself and the nurse, and only one per cent. to the person of the lying-in woman, we will now glance at the third division of our subject—the environment. However much we might desire it, it is scarcely practicable to prepare the lying-in chamber as we would a room for a laparotomy. This much we can and ought to insist upon—namely, that all the bedding and clothing of the patient be scrupulously clean; also that all persons not directly necessary as assistants to the obstetrician be excluded from the room. I congratulate the profession that the day has gone by when a woman was allowed to lie for three days in the midst of the discharges which had taken place during the labor, but I at the same time call attention to the fact that nurses, if left to themselves, are not apt to cleanse the mother properly. I make it a point to superintend this cleaning-up process, for if I do not I almost invariably find my patient neglected, or some improper article, as a sponge for instance, brought in contact with her person. Frequently one could wish the surroundings of his patient to receive more attention, but it will not be possible until the laity have been educated to its importance.

Now a few words on the second division of our subject—namely, that which pertains to the mother herself. In private practice it will not be found to be practicable to wash out the vagina with a carbolic injection antecedent to labor, and after delivery it seems hardly necessary unless the labor has been very tedious or instrumental. I say that it is unnecessary, for I conceive it to occur but seldom in private practice that the organisms which produce puerperal fever are present in the vagina of the woman antecedent to delivery, but that in fully ninety-nine per cent. of cases the morbific germs are conveyed to her by the hands or instruments of the accoucheur or nurse. Then shall we take no precautions to protect the woman from sepsis after delivery? This question is important, and I have answered it as regards my own practice in this manner: After the woman has been properly cleansed I am in the habit of separating the labia and blowing into the lower part of the vagina and upon the pudenda about ʒ ij of iodoform by means of a powder-blower, which I carry in my bag especially for this purpose. Since adopting this practice I very rarely have observed any increased temperature on the third day, and it is seldom that there is any odor to the lochia at any time during the lying-in period.

When, however, the delivery has been instrumental, I deem the immediate syringing out of the vagina, with a solution of either mercuric bichloride (1 to 1,000) or carbolic acid (1 to 40), of prime importance. This leads me to say a few words as regards the care and use of the syringe. I understand that it is the custom with most practitioners to rely upon finding a syringe at the house of the patient, and that hence they do not carry one in the obstetric bag. Of all the obstetric paraphernalia, the syringe, it seems to me, is the one most likely to convey infection, and the custom of giving the vaginal douche through a syringe that has been used for the purpose of giving rectal injections to be highly reprehensible. My custom as regards the care of the syringe is to place about ʒ ij of iodoform in the box containing the syringe, and never to use the same syringe on another patient until it has been thoroughly cleansed in a solution of mercuric bichloride. Consequently I have found it advantageous to have several syringes, and when one has been used to set it aside to be cleansed and to place another in my bag, which, having disinfected myself, I know to be aseptic. If at any time during the lying-in period any syringing is found to be necessary, let it be a settled obligation that the physician is to do it. I should as soon think of handing my forceps to the nurse with directions to extract the child as to hand her the syringe with instructions to give the patient a vaginal douche.

A CASE OF
COMPLETE SUPPRESSION OF URINE,
FOLLOWED BY EXCESSIVE SECRETION.
RECOVERY.

By G. A. OSTRANDER, M. D.,
BROOKLYN, N. Y.

On Tuesday, September 20, 1887, I was called to see Mr. C. and found him suffering with severe colic. His pulse, temperature, and respirations were natural, and the tongue was slightly coated. He was a strong, healthy Irishman, forty years of age, of the blonde type, and perfectly temperate in his habits. His bowels had been constipated for the past two days, and on examination I found them distended with gas, and that pressure upon them relieved the pain. He had urinated freely just before I arrived. I gave him one quarter of a grain of morphine hypodermically, and, ordering him to have a large soap-and-water injection, followed by hot applications over the bowels, and to be wrapped up warm in bed, I left. In two hours I was again summoned to him, and found him not at all relieved. I now gave him one quarter of a grain of morphine by the mouth, and ordered another rectal injection. This failing to give him ease, at the end of three hours I gave him two grains of opium. This removed the pain completely, and when I called on Wednesday morning he was perfectly easy. I then ordered him calomel and pulverized jalap, each ten grains, to be taken at once. As this did not operate in eight hours, I ordered a turpentine-and-soap injection, which brought away the plug of hardened fæces, and his bowels moved satisfactorily several times. On Thursday morning when I called he was up, dressed, and walking around the room, feeling very well, although a little weak. For this I ordered him to take a pill containing two grains of quinine, one quarter of a grain of extract of digitalis, and a grain of salicin, every four hours, and dismissed the case.

On Sunday morning, the 25th, he sent for me to draw off his water. On my questioning him, he told me that his water had been free and plentiful up to the evening previous, since which time he had passed very little urine and very often. I introduced a soft catheter, but the bladder was empty. Pulse, 84; temperature, 100° F.; respirations natural; bowels constipated; some œdema about the ankles. I ordered him to take one drachm of compound jalap powder every four hours, to have a hot bath, and to be wrapped up in warm blankets in bed.

Monday, 26th.—Urine entirely suppressed; ankles and legs œdematous; no urine in the bladder; pulse, 84; temperature, 101°. Ordered cups over the kidneys; to continue jalap powders (which had operated slightly). Sulphate of quinine five grains, extract of digitalis one half grain, every four hours, and hot vapor baths. Monday, P. M., met Dr. Santoire in consultation. He advised steady continuance in the treatment I had begun. The patient's tongue was very much coated, but he drank from two to three quarts of milk in twenty-four hours.

Tuesday, 27th.—No urine yet; passed the catheter twice yesterday and twice to-day. Pulse and temperature the same. He perspires profusely; bowels very loose and move very often. Examined carefully, but could find no tumor. He has slept very little in the past twenty-four hours.

Wednesday, 28th.—Patient's condition about the same; bladder empty; still perspires profusely; feet, ankles, and legs very œdematous.

Thursday, 29th.—He has passed no urine yet; bladder empty; takes the same amount of nourishment. Pulse, 84; temperature, 100° +. He has had eight large passages from his bowels in the last twenty-four hours.

Friday, 30th.—No change whatsoever, except that the œdema has crept farther up and invaded his scrotum. No change in the treatment.

Saturday, October 1st.—Has passed no water yet, and his bladder is still empty. Attempted to cup him over the kidneys, but he became alarmingly faint, and I had to desist. Met Dr. Kuhn this afternoon. He could make no suggestion, except perseverance. Strong counter-irritation ordered over the kidneys.

Sunday, 2d.—Patient restless this morning; mind slightly wandering; no coma; thinks he is dying. Increased the purgative by one drachm of cream of tartar. He takes plenty of milk, and his pulse, though weaker, is in rate the same as yesterday. The temperature is also the same. His scrotum is terribly œdematous.

Monday, 3d.—Patient passed water for the first time in *eight* days at one o'clock this morning, and from that time till now, 9 A. M., eight hours, he has passed *nine quarts*. *This I measured myself.* The specific gravity of the urine is 1·010, and it is full of albumin, granular casts, and blood. He feels much better.

Tuesday, 4th.—From nine o'clock yesterday morning to nine this morning he has passed *eight quarts* of urine. Slept considerably last night, perspires freely, and his bowels are loose. The specific gravity of the urine is 1·011; no albumin, no casts, no blood, no sugar. Pulse, 74; temperature, 99°. Diminished the doses of quinine and digitalis; stopped the purgative and ordered him to continue his milk, and to keep warm in bed.

Wednesday, 5th.—Passed six quarts of water in the last twenty-four hours. Doing well.

Thursday, 6th.—In the last twenty-four hours he has passed only two quarts and a half of water, which contains an excess of the phosphates. The pulse and temperature are natural, and he has had two evacuations without any medicine.

Friday, 7th.—Has passed two quarts of urine in the last twenty-four hours; specific gravity, 1·011; no albumin, no casts, no sugar.

Saturday, 8th.—Has passed two quarts and a half of water in the last twenty-four hours. Says he is well.

Sunday, 9th.—Has passed two quarts in the last twenty-four hours. Changed his medicine to compound syrup of hypophosphites (N. Y. and B. formula) and iron before meals, and lactopeptin and pancreatin after meals.

Monday, 10th.—Patient up, dressed, and sitting in the rocking-chair. Wants to smoke a cigar, which, of course, is forbidden. Has passed two quarts in the last twenty-four hours; specific gravity, 1·012; no albumin, less phosphates.

Wednesday, 12th.—Passes now a quart and a pint of water in twenty-four hours. Pulse and temperature natural. He looks thin, but says he feels like going to work.

Saturday, 15th.—Mr. C. is considerably improved in looks. He passes a trifle over a quart and a pint of water in twenty-four hours, which contains a small amount of urates and phosphates. He eats well and sleeps well, and his bowels move regularly.

Tuesday, 26th.—Saw Mr. C. again this A. M. He looks well, has been out walking, and has been weighed. He weighs just 160 pounds. Case dismissed.

I diagnosticated this case as one of sudden congestion of the kidneys. Was I right? In thinking it over, many questions have arisen in my mind about this case. What was its cause? Why did it come on so suddenly? How was it that there was no coma, and only for one day a slight delirium? And lastly, it seems to me, the most remarkable fact was that during the whole *eight* days of total suppression of urine his pulse never went above 100, nor his temperature above 102°. One suggestion was that my patient had renal calculi. But he would not be likely to have calculi in both kidneys at the same time, and if in one only, the other would do its work. The immense secretion of urine for the first two days after it started is, I think, phenomenal. I have to thank my assistant, Dr. J. E. Danielson, for his careful and thorough chemical and microscopical examinations of the urine.

I hope this case may prove interesting to you and your readers, and so repay its perusal.

61 Greene Avenue, Brooklyn.

CONGENITAL APHAKIA.

By W. H. BAKER, M. D.,
LYNCHBURG, VA.

Inasmuch as the anomaly known as aphakia is extremely rare—even so rare that some authorities deny its existence (notably among them Walton, who says, "It is doubtful whether this condition has ever been met with except in monstrosities")—I feel peculiarly fortunate in being able to report a case which came under my observation on October 16, 1887.

A youth, A. A., sixteen years of age, came to me in company with his father, who stated that the boy's sight was "scattered."

Outwardly, the globe and conjunctiva presented a perfectly normal appearance, but I soon discovered that he had no accommodative power, and could barely read Snellen No. 10 at six inches from the eyes.

With the ophthalmoscope, direct method, nothing could be seen excepting the red reflection from the fundus; but by using lenses of double power, in the indirect method, the optic disc and retinal vessels could be distinctly seen. I then dilated the pupil with atropine, and with the most thorough and searching examination, by direct, lateral, and oblique illumination, no vestige of lens or capsule could be discovered in either eye. B. E. + 2·50 (D) gave the best vision, enabling him to read Snellen No. 5 at twelve inches; the vision will very probably improve with use. The boy is certainly not a monstrosity in any other particular excepting in that mentioned. He is well grown, well formed, and handsome, and, as far as I could discover, perfect in every other organ.

PREGNANCY,
TOGETHER WITH ARTIFICIAL IMPREGNATION,
AS A SUBSTITUTE FOR REMOVAL OF THE UTERINE APPENDAGES IN A CERTAIN CLASS OF CASES.*

By A. H. BUCKMASTER, M. D.,
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I desire to call attention to the curative influence of pregnancy in some of the cases for which removal of the ovaries and oviducts is practiced, and to consider the utility of artificial means when conception can not be brought about in the natural way. In viewing the subject one naturally reverts to the ill-success that has attended the efforts of gentlemen endeavoring to cure sterility by artificial means. It must be remembered, however, that their results are by no means to be considered true, even approximately, of the results that can be obtained when sterility is dependent on causes so frequently effective in the cases referred to in the title of this paper.

I also desire to call attention to the importance in these cases of a more careful consideration of the physiology of impregnation than is usually accorded to the subject in the practical consideration of sterility, ignoring the condition due to imperfection of the male product.

For convenience, the subject is divided into two heads:

1. That part of the physiology of impregnation having a special bearing on this subject.

2. The effect of pregnancy on conditions for which the appendages are removed.

That portion of the physiology of reproduction which is of greatest interest in connection with this subject concerns chiefly the movements of the uterus and parts adjacent during the orgasm and the contact of the spermatozoa with the ovum.

The spermatozoa are contained in the seminal fluid, which in coition is ejaculated with considerable force—sufficient in the dog to cast it two or three feet or more from the urethral orifice.†

The ovum is discharged from the ovary, which is grasped at this time by the congested fimbriated extremity of the Fallopian tube. The passage of the ovum through the tube is difficult for one to understand from the drawings in the books, but is much more readily comprehended when the normal organs are viewed *in situ* on the post-mortem table. The normal migration of the ovum is usually stated to be due to the cilia which line the mucous membrane of the tube. It seems reasonable to consider that the muscular contractions of these tubes are more important factors in the journey of the ovum than is commonly supposed. I quote from Landois:* "In the female also, under normal circumstances, at the height of the sexual excitement, there is a reflex movement corresponding to ejaculation. It consists of a movement analogous to that in man. At first there is a reflex peristaltic movement of the Fallopian tube and uterus, proceeding from the end of the tube toward the vagina, and produced by the stimulation of the genital nerves."

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* Read before the Alumni Association of the Woman's Hospital at its third meeting.

† "Acton on the Reproductive Organs," quoting Valentin, p 164.

I also desire to allude to the well-known experiments of Dr. Milne Murray.† He demonstrated a fact fairly well known, that there are constant rhythmic movements in the uterus of the rabbit.

He introduced a Barnes's bag containing an amount of water into the vagina (not sufficient to distend it) of a pregnant primipara, and attached the tube to a manometer. The tracing shows that under these conditions there is a rhythmic rise and fall of pressure in the vagina. The movements of the uterus and tube were determined. He also observed that thermal stimuli had the effect of increasing the energy and duration of these contractions, and it does not seem irrational to maintain, in view of these facts, that in the acme of sexual excitement such a series of forcible and rapid muscular contractions would ensue sufficient to carry the ovum to its uterine destination. In this way may occur in a few minutes what is usually assumed to take place in about eight days, thus doing away with this objection of Barnes‡ and other recent writers on obstetrics against the possibility of the uterus being the point where the spermatozoa meets the ovum.

According to an editorial in the "Medical News,"# Dr. Wyder, of Berlin, presents strong arguments in favor of the uterine-site theory of impregnation, but the question is yet *sub judice.*

That the uterus is not a passive agent in the sexual act has been proved by a number of well-authenticated cases.‖ My friends, Dr. Dickinson and Dr. Osborn, have both been so fortunate as to observe the descent of the cervix, the opening of the os, and its subsequent closure and retraction in women while in a state of erotic excitement produced by manipulations of the cervix. "Dembo△ observed that stimulation of the anterior wall of the vagina in animals caused a gradual contraction of the uterus. By this movement, corresponding to that of the vasa deferentia in man, a certain amount of mucus normally lining the uterus is forced into the vagina. This is followed by rhythmical contractions of the sphincter cunni, . . . also of the ischio-cavernosus and deep transversus perinæi. The uterus is erected by the powerful contraction of its muscular fibers and round ligaments, while at the same time it descends toward the vagina, its cavity is more and more diminished, and its mucous contents are forced out. When the uterus relaxes after the stage of excitement, it aspirates into its cavity the seminal fluid injected into the vestibule (Aristotle, Bischoff, Litzmann, Eichstedt)." The contractions of the levator ani shorten the vagina, so that the semen *may be* shot with considerable force directly into the cervical canal. The force exerted by the levator ani can be appreciated to some extent when we read of cases where its contraction interferes with the progress of labor.

If contractions of the muscular sexual apparatus can push the contents of the uterus and vagina in one direction, it can be conceived that in some cases the contractile wave might commence at the wrong end of the canal, or we might have a reverse peristalsis, or, as Kehrer* terms it, antiperistalsis. Dr. Matthews Duncan† says: "In animals, especially in cows and mares, the semen is described as being not rarely expelled from the vagina after coitus, and the failure to retain it is said to be in some cases owing to the animal not being duly in heat, and attempts are made to cause retention by dashing cold water over the buttocks and external parts." He says that a like failure is frequently complained of by women,‡ and that these women are usually sterile.

It seems a little unreasonable at first sight to avail ourselves of the contractions of the uterus, tubes, and vagina, to carry the different products in opposite directions, but it is well known that the contraction with its preceding dilatation will start from the point of irritation. The discharge of a Graafian follicle would seem to supply ample irritation to start the contraction at the tubal end.

I have read of no cases that make clear to my mind the supposed fact that merely injecting the spermatozoa into the vagina without the action of the genital muscles—and by these I mean the levator ani, muscular portion of the uterus, vagina, tubes, and round ligaments—can accomplish impregnation. Much less do I believe in the statements that assign the pregnant condition to the ability of the spermatozoa to travel from the outside of the vulva, scaling the hymen, climbing over the cervix, and, after passing through the body of the uterus, pushing themselves beyond by struggling against the cilia of the tubes. There seems to be a much simpler explanation of these cases. During sexual excitement the uterus is at some time forced down near the vaginal outlet by the contraction of its mus-

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* "A Manual of Physiology," Landois, vol. ii, p. 1119.

† "On the Effect of Water at different Temperatures," "Edinburgh Medical Journal," August and September, 1886.

‡ "A System of Obstetric Medicine and Surgery," Robert Barnes and Fancourt Barnes, 1885, p. 67.

"Medical News," Philadelphia, October 30, 1886.

‖ "A Text-book of Human Physiology," Austin Flint, Jr., p. 890.

△ Landois, *op. cit.*, p. 1119.

* "Ueber die Zusammenziehungen des weiblichen Genital-Canals," Inaug. Diss., Giessen, 1863, p. 13 *et seq.*, quoted by Chadwick, "Trans. of the Am. Gyn. Soc.," 1885, p. 225 *et seq.*

† "Sterility," etc., Matthews Duncan, "Gulstonian Lectures," London "Lancet," 1883, vol. i, p. 163.

‡ Von Ziemssen's "Cyclopædia," Schroeder, vol. x, p. 537.

cular structures and the strong contractions of the abdominal walls, with the assistance of the diaphragm. The shortening of the vagina also aids to bring the uterus nearer the outside. If the male organ is partially introduced, or even within an inch of the vulva, I think it comprehensible that, under certain circumstances, the seminal fluid might be ejaculated into the cervix, or carried into the vagina far enough to be aspirated into the uterus.

The cilia in the uterus and Fallopian tubes, with their constant motion, are like sentinels stationed at either end of the uterine cavity, permitting entrance, but denying all egress.

The next step in this physiological consideration is the time that the ovum is discharged, and only broad generalizations can be made. Tilt[*] says that "menstruation and ovulation are shown to be parallel facts, but their causal dependence is by no means proved." It is, however, generally accepted that in the majority of cases the follicles rupture at the commencement of menstruation. The time of rupture is probably largely influenced by the amount of congestion, and thickness and character of the tissue overlying the fruit-sac.

According to the recent investigations of Dr. Johnstone,[†] and also those of Dr. Bland Sutton,[‡] our ideas of menstruation must be considerably modified. By using a $\frac{1}{30}$ immersion lens, the former gentleman believes he can demonstrate that the uterus is an "adenoid" structure, and that the lining cellular membrane of the uterus is gradually developed from the ultimate fibers of the endometrium. He thinks that Dr. Williams's[#] observations, on which many base the idea of menstrual casting off of the uterine mucous membrane, were defective, because he did not use higher lenses, and because the patients from whom he derived his specimens died of diseases which would in themselves cause great pathological changes.

Dr. Bland Sutton examined the menstruating uteri of some young females, and also carefully studied the menstrual changes in the uteri of Macacque monkeys and baboons, which suffer from a periodical loss of blood from the uterus as occurs in the human female. He arrived at the following conclusion: "The periodical discharge of blood from the uterus, accompanied by the shedding of the epithelium of the body and fundus, as well as that lining the utricular glands near their orifices," should constitute the definition of menstruation. He thinks the so-called denudation to be a change produced artificially while preparing the specimen.

If these gentlemen are correct in their deductions and observations, there would be no period during the month when the uterus could not be impregnated, but the best time would be just after menstruating, and this corresponds to the clinical facts. Dr. T. Addis Emmet has held for a long time that the lining membrane of the uterus was of a different nature from the ordinary mucous membrane.

From the foregoing physiological facts we draw the deduction that anything that will interfere with the rhythmical movements of the uterus and tubes will act as a barrier to impregnation. An inflammatory mass on either side of the uterus, a flexion of this organ backward or forward, an ovary acting as an irritative focus, an inflammatory condition of the inner surface of the uterus or tubes, an inflammatory condition of the tissue adjacent to the uterus with its results in the form of adhesions—all these might prevent conception by interfering with the normal rhythmical movements of the genital muscular apparatus. Kehrer[*] divides the contractions of the uterus into three varieties—the *progressive*, the *localized* (stricture), and the *universal* (tetanus). In his experiments with rabbits, pure exposure to air would give rise to a contraction which advanced through the whole genital canal, while by chemical, mechanical, electric, and thermal irritation contractions could be started at almost any point, and were transmitted in one or the other direction. The same result might be brought about by pain during intercourse, by interfering with nerve action. It might be urged against this idea that many women become pregnant without seeming to be much affected by the sexual congress, but I think it not improbable that there can be quite active reflex movements in this case with slight disturbance to the patient. I know it is a popular idea, based on what evidence I can not say, that women who are of an erotic nature are most apt to bear children.

Having briefly considered points of interest in connection with the physiology of the subject, I will endeavor to point out where pregnancy might prove curative in cases where a formidable operation is the present fashion.

1. *Diseases of the Uterus, Ovaries, and Tubes.*—With very large fibroids the advantages of pregnancy would be so questionable that it seems fortunate that nature has interposed an almost impossible barrier.

With respect to smaller growths of this class, Dr. Emmet quotes a very interesting case. A subperitoneal fibroid was found in the anterior wall of the uterus of a sterile woman who had been married for a number of years, but was now three months gone with child. The uterus was lifted out of the hollow of the sacrum and the patient went to term. At labor the tumor had disappeared. He quotes two other cases of disappearance of the fibroid under these conditions.[†]

A small fibroid on the anterior wall will at times give rise to distressing vesical symptoms. I recall one case where it seemed impossible by mechanical means to remove tension from the neck of the bladder. The patient suffered very much. In a case of this kind it would be of great advantage to the patient to become pregnant. Such a termination has manifest advantages over the operation of Hégar or hysterectomy. Removal of the ovaries and tubes is recommended in the so-called chronic metritis.* Dr. Howard A. Kelly † has recently advised oophorectomy for a class of cases of subinvolution. I have seen this condition so often and invariably cured by the proper performance of Dr. Emmet's operation for *restoration* of the cervix that I can not conceive that so radical an operation is necessary.

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[*] Tilt, quoted by Jacobi, "Question of Rest for Women during Menstruation," p. 77.

[†] "The Menstrual Organ," by Dr. Arthur W. Johnstone. "Brit. Gyn. Jour.," vol. ii, No. 7.

[‡] "Menstruation in Monkeys," by Bland Sutton. "Brit. Gyn. Jour.," vol. xi, No. 7.

[#] "Obstet. Journal," London, vol. ii, p. 686.

[*] "Peristalsis of the Genital Tract," etc., Chadwick. "Trans. of the Am. Gyn. Soc.," vol. x.

[†] "Princ. and Prac. of Gyn.," Emmet, 3d ed., p. 545.

In cases of retroflexion it would be well to establish the impossibility of pregnancy before resorting to so grave an operation as did Dr. Richolot,‡ a Frenchman, who quite lately removed the uterus through the vagina for this condition.

Anteflexion, so far as I am aware, has not yet proved an occasion for removal of the uterus. It is often associated with other conditions that pregnancy would surely benefit.

What relation the so-called cystic degeneration of the ovaries or chronic oophoritis bears to psychoses as a primary cause is unknown. Of course, when there is associated with the enlargement a prolapse of the organ, the latter condition may stand in the causative relation. Very few ovaries, no matter how extensive may be the follicular formation, are destitute of functionally active tissue. These cases are those where pregnancy should be brought about if possible.

In cases where both tubes are extensively diseased, this procedure is out of the question; but where the disease is limited to one side it might prove of advantage to the patient.# I quote Dr. Emmet: "I have also met with a few instances where the Fallopian tubes happened not to have been involved in the neighboring inflammation, and pregnancy has followed careful dilatation of the cervix without lighting up the old pelvic trouble. The effect has been that the pelvic inflammation of long standing has been removed gradually through the new action or revulsive effect, established in consequence of the advancing pregnancy." ‖

If pyosalpinx is as frequent as we are led to believe, one would expect to hear of many cases of death following rupture of the tubes before term, unless it is that only a small number of these subjects become pregnant. Grigg △ has recently reported four cases, with post-mortem examinations, of what would commonly be classed under the vague term of puerperal septicæmia.

The causes of death were as follows: Rupture of small ovarian cyst (two cases); abscess of left ovary and pyosalpinx; eclampsia due to pressure on the ureters from old inflammation of the broad ligaments and Fallopian tubes.

Would a patient with extensive unilateral pyosalpinx go safely through with the child-bearing period?

Where reflex disturbances seem to be dependent on a monthly congestion of the contents of the pelvis, with no appreciable disease, the diagnosis is beset with so many difficulties that one accepting the indication would leave no stone unturned before resorting to castration.

To those who believe in the importance of local pelvic inflammation and accept Dr. Emmet's teaching, pregnancy offers a practical solution of the difficulty.

Dislocation of the ovary deserves the most careful attention, for it is associated with this condition that we find dysparennia. I have seen cases where the suffering had been intense in character and prolonged over long periods; where the removal of a prolapsed ovary and its fellow that macroscopically or microscopically presented no pathological appearances afforded complete relief from suffering. These women either deny their husbands or tolerate sexual intercourse. They dread the pain, and derive no sexual gratification. It is in these cases particularly that artificial impregnation would seem to be very useful. I quote a case occurring in the practice of my friend, Dr. Charles Jewett.*

A patient with prolapse of the left ovary and retroversion of the uterus suffered so severely that removal of the ovaries and oviducts had been discussed. She became pregnant, and since that time her disagreeable symptoms are much less. The ovary is still somewhat prolapsed and the uterus retroverted, but not so much as formerly. Owing to the incompetence of the nurse, the patient was allowed to walk on the fifth day after the confinement.

Prolapse of the ovary is frequently associated with anteflexion. Sterility is quite commonly associated with anteflexion. In many of these cases the thick cervical discharge obstructs the canal and offers an impassable barrier to the ingress of the spermatozoa. I believe this proves a mechanical obstacle in a large degree by its elasticity causing it to spring back when the uterus draws back the everted canal. It thus acts as a valve. I have a patient now under my care for sterility in whom everything is normal, and has been so, as far as I can learn, except an anteflexion and this cervical catarrh. By overcoming this mechanical obstacle conception can take place.†

I have considered anteflexion and retroflexion as conditions which in themselves cause troublesome symptoms. I have done so more in accordance with habit than because I believe them strictly entitled to this place.

I now desire to present the history of a case in which I tried artificial impregnation unsuccessfully.

A young lady, one year married, gave birth to a dead child after a severe labor of more than forty-eight hours. She was well educated, possessed of great personal attractions, and, although phlegmatic and somewhat timid, was in no degree hysterical. Her husband was most devotedly attached to her, and, in brief, her future was very bright.

Her bladder was allowed to remain unemptied for three days after the child was born, the urine dribbling away. For thirteen weeks after her confinement she passed no urine voluntarily, and the catheter was in constant use. She underwent the usual treatment for cystitis, by injections, etc., but continued to grow worse. For two years she suffered from dyspa-

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* "Diseases of the Parenchyma of the Uterus," etc., Jaggard. "System of Prac. Med.," Pepper, vol. iv, p. 459.

† "Medical News," editorial, 1886.

‡ "A Case of Vaginal Hysterectomy," etc., translated from "Union médicale," "Gaillard's Med. Jour.," October, 1886.

Martin, in 287 cases of diseased Fallopian tubes, found the disease unilateral in 196 ("Ctrlbl. f. Gynäk.," No. 45, 86), "N. Y. Med. Journal," vol. xliv, No. 26.

‖ "On Certain Mooted Points in Gynæcology," Emmet, "British Med. Jour.," Nov. 13, 1886.

△ "Brit. Gyn. Journal," vol. ii, No. 7.

* "American Journal of the Medical Sciences," paper by the writer, April, 1877.

† Of course, where the anteflexion is associated with defective development of the endometrium little or nothing can be done.

reunia, dysmenorrhœa, and frequent and painful micturition, and at the end of this time, in the fall of the year, sought the care of a distinguished gynæcologist. This gentleman performed Emmet's button-hole operation, with no amelioration of her symptoms. The button-hole was enlarged, but with no better success. She received local treatment until spring. For some time she was treated with the faradaic current and was slightly improved. The patient then came under my care. I found it impossible to make a thorough or even superficial examination without the aid of an anæsthetic. An ovary was down in the *cul-de-sac* and exquisitely tender. There was thickening on both sides, particularly on the left, but the uterus that was retroverted could be put in place.

This case seemed to be one where pregnancy would prove most useful if it could be brought about. I could find little or no literature on the subject. Dr. Sims * had tried artificial impregnation for the cure of sterility, but the cases quoted were not of much service to me. I believed it was impossible for her to become pregnant naturally. She had not been approached by her husband for over a year, and at that time coitus was very painful. Her husband had been away on the eighth, ninth, and tenth month before the child was born, and had seen her only once in the mean time, so she could calculate the exact time of conception in relation to the menstrual period. This was fifteen days after the flow ceased. I questioned her very carefully on this point, so that the period of utero-gestation was exactly two hundred and eighty-two days.

I attempted to artificially impregnate this patient, choosing the time in relation to the period that was related to her former pregnancy. As to the method, it was very simple. Fresh semen was obtained, and a glass tube with a rubber cap at one end (such as is used by Dr. Skene to make applications to the cervix) was warmed, the semen was taken up into it, and one or two minims were gently dropped past the internal os. The tube had been bent so as to conform to the shape of the uterine canal. This was accomplished with but slight pain to the patient.

After making two ineffectual attempts, I was obliged to leave the city and did not see the patient for several months. I then proposed that she put herself under my care for six or seven months, if necessary, and give this method a fair trial, but she determined, by the advice of older and more experienced surgeons, to submit to the operation for removal of the ovaries.

She underwent a laparotomy in November, and the operating surgeon removed one ovary and tube. I had an opportunity of examining the specimen, and am sure it was as competent to fulfill its function as any ovary or tube I have ever seen. Nine months after this, her symptoms still remaining unimproved, she again submitted to a laparotomy and lost the remaining tube and ovary. The tube was to the naked eye healthy, and the ovary functionally active.

The patient is at the present time much better, but far from well.

In closing this paper, I would say that I believe that if the lady mentioned in the foregoing history had had more patience, she stood an excellent chance of being surrounded by a family of children, and at the same time freed from her distressing symptoms.

The Philadelphia County Medical Society has, as we learn by the "British Medical Journal," elected Dr. Pavy, F. R. S., and Mr. Lennox Browne to honorary membership, those gentlemen having addressed the society at a recent special meeting.

Correspondence.

LETTER FROM PARIS.

Naphthol as an Internal Antiseptic.—Purple Stripes on the Chest in Cases of Pulmonary Disease.—The Primary Closure of Anal Fistulæ.—The French and the International Medical Congress.—The Responsibility of Sons and Daughters for Medical Services rendered to their Indigent Parents.—A Colored Medical Woman.

Paris, *November 7, 1887.*

Professor Bouchard, who holds the chair of pathology and general therapeutics at the Paris faculty, was lately elected a member of the *Académie des sciences* in opposition to Professor Germain Sée. Dr. Bouchard gives in his first communication to that august body his ideas on "Naphthol as an Antiseptic." It is now a long time since he introduced this agent into therapeutics, as an internal antiseptic, although it had already been used locally in skin diseases. Having studied and measured its toxic and its antiseptic powers, he found it preferable to all other internal antiseptics, on account of its feeble solubility. For the disinfection of accessible surfaces we have already plenty of good soluble antiseptic substances, but for general antisepsis one was wanted that could be introduced into the blood in sufficient doses to obstruct the microbes' action without compromising the health or life of the patient. Insoluble substances, or at least those that are only slightly soluble, are the only ones that can be employed. It is for this reason that salicylate of bismuth, iodoform, and naphthaline are used. Naphthol is only soluble in water in the proportion of 2 per cent., so that it is practically almost insoluble. What is its antiseptic value? Professor Bouchard studied this point and proved it in some eleven cultivations of different microbes, such as those of pus (*Staphylococcus albus* and *aureus*), the bacillus of pneumonia, and that of typhoid fever, and found that naphthol would prevent their development; even the bacillus of tuberculosis was affected by it. Urine and liquid fæces agitated with powdered naphthol will not ferment. The toxic dose of this substance is about 3,750 grains, but it only requires less than 40 grains of it daily to produce perfect intestinal antisepsis. It is now very much in use in the Paris hospitals in cases of typhoid fever.

Professor (*agrégé*) Troisier calls attention to an alteration of the skin in chest troubles that has been but little noticed. Thaon first spoke of it in 1880, and a few other cases have been seen since. Dr. Troisier's case occurred in his service at the Hôpital de la pitié. The patient was suffering from phthisis, and had on the right lateral region of the thorax a group of some fifty or sixty purple stripes, much like what the old accoucheurs used to call vibices, or the *vergetures* of the French, such as are seen on the abdomen and thighs of women who have been pregnant. Some of the stripes formed transverse lines and others were oblique; there were also some found on the knee. It was difficult to tell at what moment they had developed, as they were only accidentally seen in February, 1887. The autopsy showed that the lungs on both sides were infiltrated with tubercles, and that the left summit adhered to the thoracic wall and was full of cavities. Does there exist, then, a relation between these stripes and pulmonary affections? One is tempted to think so, and, if so, they might become an element of diagnosis. To explain them is difficult; there was neither distension of the skin, dilatation of the thorax, nor pleural effusion. A histological examination showed that the principal lesion was in the elastic system of fibers, in which it seems that these stripes are similar to those of pregnancy. They are not due to atrophy, but simply to a lengthening of the elements of the derma; and they are not a formation of new tissue, like that seen in cicatrization.

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* Sims's "Uterine Surgery," Lect. vii.

Professor (*agrégé*) Quenu brought up the question of "Primitive Re-union in the Treatment of Fistula in Ano" at a late meeting of the *Société de chirurgie*. Dr. Quenu said that this method was much used in America, and that Professor Smith had spoken of it in New York, but that so far it had been but little used in France, notwithstanding Chassaignac had tried it and written on it in 1852. But, if the method was not new, the conditions were, as we now had antisepsis, and its benefits allowed the operation to be recommended. Professor Quenu had tried it lately on nine patients in his surgical wards who were affected with different varieties of fistula in ano. The patients were prepared by a purgation the second day before, and a rectal injection of borated water the next day. The operation was conducted as usual in the first part of it, except that it was found convenient to apply pressure forceps to each flap of the rectal incision. Dr. Quenu described his method of suturing, one set of sutures being placed in the interior of the ano-rectal canal, and the other on the perineal side. For the first he used No. 3 or No. 4 catgut, for the second rather thick silver wire. The rectal sutures were easily placed by using Gein's speculum, but to make these sutures one must not be satisfied with simple sutures passed from one side to the other, but, using a Reverdin needle, in the same manner that Emmet used it in his perinæorrhaphy operation, pass the thread in a plane parallel to and subjacent to the cut surface, so that it would not appear in the wound itself. The perineal sutures should be placed in the same manner. The dressing used was a tampon moistened with iodoformed ether. On the eighth or ninth day a glycerin rectal injection was given to free the bowel, and on the tenth day the sutures were withdrawn. There is an essential difference between this operation and that recommended by Smith, of New York, in that it seems he used carbolized-silk sutures or catgut prepared with chromic acid. He also uses the saddler's stitch, and a *drain*, and this last proves that he does not set his sutures as Emmet does. Dr. Quenu obtained seven successes in his nine patients, and two of them were tuberculous. Six of them left the hospital on the twelfth day, without needing any dressing of any kind. M. Quenu, however, declared that he was not disposed to admit, as Professor Smith did, that all the varieties of fistula could be cured by this method. He would not use it in phthisical patients who were well advanced, nor when there was a number of orifices, but in cases of simple fistulæ, even when they were as long as four or five inches, he recommended it.

You have doubtless noticed the unfavorable criticisms of the Washington Congress, and the unkind mention of its secretary-general, that have appeared in some of the French journals. Dr. Landolt, the eye specialist, has replied to the attack, admitting that most of it was true, but stating that the congress was nevertheless of scientific value, and that Dr. Hamilton had done his utmost to make it succeed. It is rather hard that Frenchmen expect others to know their language when they rarely or never know any language but their own. It also seems unkind in them, after having combined with the Americans at the Copenhagen Congress to prevent the Germans having the congress go to Berlin, that they should have abstained from it.

The Paris civil tribunal has just taken a step that is of interest to physicians. According to the French law, children are responsible for their parents who can not support themselves, and they can be compelled to furnish them with *aliments.* This alimentary obligation takes in not only food, but lodging and clothing, and by the new decision it also includes medical assistance. The case in question was brought by Professor Peyrot, the surgeon who had been called in by Dr. Lorey to see a lady patient of his who had a fractured femur. Dr. Peyrot took her case in hand and cured her, but, on sending his bill in to the daughter, who was supporting his patient, her mother, she refused to pay, and yet she was present often when the doctor called, but she had not called him. It ended by the daughter being compelled to pay Dr. Peyrot $200, and the judgment is that a doctor can collect for attendance from those who are bound to support a patient.

We often talk about freedom in America, but republican France seems to go ahead of us. Within these last few weeks a Madame Sollier has passed her thesis examination and been received as a doctor of the Paris faculty. She treated on "The State of Dentition in Idiotic and Deformed Children." It will cause no surprise that a woman is admitted here, as we have often stated that they are admitted on an equality with men when properly qualified, but this is the first case of a "lady of color" passing in Paris. Of colored men, however, there are plenty who are students at the faculty. Madame Sollier is a dark mulatto of French origin, her father coming from the possessions of this country in Guiana. It may be added as a proof of French liberty that Mme. Sollier is the wife of a blonde Frenchman, who is also in the medical profession, being an interne at the Bicêtre Hospital, near Paris.

Antipyrine in Sea-sickness.—The "Lancet's" Paris correspondent writes: "The Société de biologie has devoted part of its last two sittings to the discussion of the different means recommended for the relief of sea-sickness. A note was presented by M. Hantz on the best way of administering cocaine, and received without any expression of opinion. M. Dupuy said that sea-sickness was more severely experienced by dyspeptic subjects, and particularly those who had dilatation of the stomach. In eleven cases he had given antipyrine in doses of from two to three grammes for a few days before embarking, and the patients had all informed him that they had been free from sickness. M. Dastre said he had instituted a series of experiments upon animals, imitating as closely as possible the movements of 'pitching' and 'rolling.' He had found that there was an incredible displacement of the abdominal viscera, which strike against the diaphragm and cause the gastric uneasiness. The body struggles with these displacements by means of muscular contractions, and the respiratory rhythm accommodates itself to them. Professor Brown-Séquard remarked that this theory of visceral displacement was very old, and one which he had been able to verify in his frequent passages across the Atlantic. It was evidently the view entertained by Wollaston, who recommended Arago to place a pad over his stomach when he crossed the Channel. M. Maurel had no doubt as to the influence of the stomach, but thought the cerebral shock also played a part in the determination of the symptoms, inasmuch as the sickness always occurs when the boat is going down, never when it is being lifted up. The best preventive was lying on the back. Beyond the statement that sea-sickness is associated with dilatation of the stomach, and the hope held out by M. Dupuy that in antipyrine we now possess a remedy for it, there was nothing new in the views expressed by the different speakers. I have referred, however, at some length to the subject because my own seafaring experience has been somewhat extensive, extending over intervals during the last fifteen years, and including some kind of trial of every new drug recommended. Until a month ago the plan I always recommended was to take bromide for some days before going on board, and, if discomfort was felt notwithstanding, the dorsal decubitus was to be adopted. This, together with champagne, is generally what the transatlantic captains advise. In a recent trip to New York I tried two other remedies. The surgeon of the ship recommended me tincture of capsicum, and I had also taken a supply of antipyrine. As far as one case goes, the result of the antipyrine was most satisfactory, and I can to this extent indorse the experience of M. Dupuy. The capsicum was also serviceable as a palliative, for several persons who had taken it continued to ask for it, but it did not arrest the sickness like antipyrine."

LETTER FROM LONDON.

The Entries at the Metropolitan Schools.—The Post-graduation Course at Charing Cross Hospital.—Laparotomy for Peritonitis.—Struma, Scrofula, and Tubercle.—The Resources of Guy's and St. George's Hospitals.

London, *November 14, 1887.*

The entries at the metropolitan schools this year compare very favorably with those of previous years; St. Mary's, Charing Cross, and Middlesex Hospitals have every reason to be satisfied with the increased numbers they can show, while there is a decided falling off at Guy's, King's, and St. George's. The steady downfall of these schools, in point of numbers, of recent years has been very remarkable. St. Bartholomew's, as usual, heads the list with the very large entry of 140 full students, a number which I believe has only once been surpassed. This increase of the numbers in the metropolitan schools, however, does not correspond with a decrease in the provincial schools, and consequently it is absolutely certain that many of those who are now spending their time and money in struggling to get into the medical profession will never be able to make a living at it. For many years past the number of men qualifying each year has been about double that of those dying, and the supply is consequently far greater than the demand; the balance has been kept by the large numbers who have gone out to Australia and New Zealand, but we can not count on disposing so satisfactorily of our surplus much longer; there are already cries of overcrowding in those far distant parts, and their medical schools have very much improved of late, so that they will very soon be able to turn out a sufficiency of competent practitioners to meet their own requirements. The outlook, therefore, for the present first-year's men is far from encouraging.

The post-graduation course at Charing Cross, to which I made some reference in my last letter, has turned out the most extraordinary success. Before the commencement some forty pupils were enrolled, and now there are many more than a hundred. They are all or nearly all *bonâ fide* practitioners, many of them in large practice, and they profess themselves exceedingly pleased with the lectures that have so far been given. I had the chance of attending the last one, by Dr. Mitchell Bruce, on heart disease, and I was much impressed with the thorough manner in which the whole thing was done. Of course, in the short space of one hour Dr. Bruce could not be expected to go very deeply into the subject of heart disease, but he put the main facts in regard to compensation, hypertrophy, and dilatation before us, and discussed the various causes of heart failure in a most clear manner. After the lecture a large number of hearts, illustrating different forms of valvular disease, were shown, and some thirty patients had been collected in the wards for examination, each patient being provided with a card on one side of which the diagnosis was written, while the other side showed a tracing of the chest with the physical signs in regard to his heart accurately mapped out. I had heard before that the members of the class were very enthusiastic about it, and if the other lectures were anything like the one I heard I need not be surprised.

The treatment of peritonitis by laparotomy was under discussion at the last meeting of the Clinical Society, one case of traumatic peritonitis and two of tubercular peritonitis being reported in which the abdomen was opened and the peritoneal cavity drained with a satisfactory result. The question I should like to put, however, is, whether in the two latter cases the patients would have recovered without surgical interference, because, if so, they have been subjected to an additional and unnecessary risk; from what I have seen, both clinically and in the post-mortem room, I have no doubt that tubercular peritonitis is by no means necessarily fatal, even when it has given rise to ascites, and I confess I should hesitate much before submitting a child to the somewhat formidable operation of abdominal section for this disease. In the cases in question, however, I am bound to admit that recovery seems to have followed very promptly on the operation, and that at a time when the patients were otherwise rather going down hill.

At the last meeting of the Pathological Society, Mr. Eve read a communication on the relation of strumous gland disease to tuberculosis, based on experimental inquiry. He has been inoculating animals with portions of strumous gland, and the result in every instance was the production of acute tuberculosis. He said that he could observe no essential anatomical difference between the lesions produced in animals by strumous gland and true tubercle, and he suggested that the substitution of the word tuberculous gland disease, or osteitis, etc., for strumous or scrofulous would remove a confusion and tend to a better appreciation of the disease. In this I entirely agree with him, and I sincerely hope that "struma" and "scrofula" will now be allowed to die a natural death; they have had their day, and we can now do very well without them—indeed, a good deal better than with them.

The authorities at Guy's are still making desperate efforts to raise funds. They originally asked for £100,000, and have got about three fourths of that sum, and meanwhile, by a stroke of luck, St. George's Hospital has come in for that amount in one legacy from a very rich testator. One may be sure that the committees of all the other hospitals feel very envious, for St. George's, being at the West End, is more patronized by the wealthy classes than any of the other hospitals.

The Tennessee Board of Health on the New York Quarantine.—The last issue of the board's "Bulletin" contains the following: "The vigilant health officers of Chicago, Cleveland, Baltimore, and Philadelphia all report having located and isolated for observation a number of these passengers, and also to have thoroughly disinfected their effects, or entirely destroyed the same by burning. For this, outside of their several communities, the public owe them a debt of gratitude. Again, the statement is given of one whose character is vouched for, that a few nights since he rowed to Hoffman's Island, where the cholera suspects are supposed to be, and should be, under the closest surveillance, that nobody interfered with him, that he trafficked with them, and, on leaving, carried eight letters ashore to mail. While there he was told that a number of the detained passengers from off these infected vessels had escaped from quarantine, and that, from all he could see, there was nothing to prevent his boat-load from doing likewise, as he returned to shore, if they chose. While possibly some of the details as given above may be overdrawn, yet the fact stands out to be seen of all men that the quarantine of New York, under its present management, affords no protection whatever to the American public against the importation of this Asiatic pest, and, with the additional fact before us that 80 per cent. of the 334,203 immigrants who arrived in this country in 1886 came through the port of New York, the extent of our peril would seem indeed to be alarming. Health officers in Tennessee, and everywhere else throughout the country, for that matter, would do well to recognize the solemn farce being enacted at the quarantine station of New York—the inexcusable condition of affairs reported at this our most dangerous and least protected point, and if Governor Hill can not be induced to promptly remove this blot from off his otherwise strong administration, which seems to fall but little short of a reckless tampering with the public health, they should set about at once to make every possible preparation to meet what, at this writing, seems inevitable."

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THE FAMILY PHYSICIAN OF THE FUTURE.

It is customary for an annual address to be given before the New York Academy of Medicine, and it is usually given by some person whose turn of mind is supposed to be such as to incline him to treat of a theme of general as well as strictly professional interest, and to enable him to handle it with more literary skill and present it with more of the graces of oratory than are ordinarily looked for in formal contributions to the literature of medicine. This year the choice fell upon Dr. Andrew H. Smith, and he delivered his address at the Academy's last meeting, held on the 17th inst. Dr. Smith took for his subject "The Family Physician of the Future," a theme that, under one heading or another, has often been written about. He could hardly have been expected to advance anything strictly novel in regard to the family physician of the future, and therefore it is not a matter of disappointment that he did not. The thoughts which he put forward have been expressed before, and in not very dissimilar terms, especially, as we remember, by Fonssagrives. Nevertheless, there was at times such facility of expression to be noted in the speaker's words as to recall the "lobes and fissures" and other happy hits which many present remembered him as having made in the verses that he read at the Holmes dinner. Besides that, the gist of his discourse, although by no means original, was so wholesome in its bearings as to induce us to give it to our readers.

For a long time, said Dr. Smith, the practice of the healing art was coupled with other occupations, and it was not until comparatively modern times that it had taken an independent position. Gauged by its usefulness and by the degree of intelligence and education which it demanded, it ought to command the highest regard on the part of the public, yet it could not be said that at present it occupied in the estimation of the community a place commensurate with the interests involved; it was still unable to make its voice heard above the clamor of ignorance, superstition, and charlatanry. One reason for this was that the profession confined its field of usefulness within too narrow limits; there was too great a disposition on the part of physicians to restrict their labors to the field implied in the term "practice of medicine"—to the treatment of actual disease—without taking note of that higher duty, the preservation of health. Moreover, both as a science and as an art, medicine was too much occupied with the individual organism, and not enough with that organism in relation to other individuals and to the race in general. It had left almost unnoticed the great questions of the influence of heredity, climate, social habits, architecture, religion, etc., upon the physical well-being of the race; these matters were practically ignored in our medical schools.

If medicine was to take its proper rank, there must be a remodeling of the relations of the family physician to his patrons. At one time there had been such a character as the family physician, but now he had come to be, in cities, the doctor who was called in by the family while they did not yet know what the matter was; the diagnosis having been made, they sent for the eye-doctor, the ear-doctor, or some other specialist. The services of specialists would, indeed, always be needed, but the time would come when they would be invoked only at the suggestion of the family practitioner. The tendency of modern research was to give prominence to preventive medicine, and thus to widen the physician's sphere of usefulness, to make him the counselor in every matter relating to health. The family physician should be the family sanitary adviser, charged with the supervision of its health, instead of being called in only when some member had broken a leg or taken the croup. As matters were now, he could not generally acquire such an intimate knowledge of the family antecedents as would best fit him for his duties; his information was too strictly limited to the present illness. So long as this state of things continued the relation of the profession to the community could not greatly improve; its voice would remain unheard in the halls of legislation, neglect of sanitation would continue to fill the hospitals and the cemeteries, architecture would go on as the handmaid of disease, questions of health would not weigh in determining the relations between capital and labor, unrestricted traffic in drink would prosecute its work of destroying health and life in the present and preparing a heritage of disease for posterity, and public opinion would still tolerate, if it did not demand, that abnormal activity in business and social life that had already gone far toward making us a nation of invalids, and promised, if statistics could be depended upon, to make us a nation of lunatics.

What, in detail, ought to be the relations between a medical practitioner and the families under his charge? The speaker answered the question by the hypothetical case of a young married pair who placed their health, and that of their children to come, in the physician's hands, engaging him not alone to bring them through any given attack of disease, but to keep them in health. He should not be too much their senior, for they should not change their physician without the gravest reasons. They should place their own medical history before him, and, as far as possible, that of their ancestors, and he should keep a minute and careful record of the same, to hand down to his successor. He should make thorough examinations of each member of the family at intervals, and enter his observations upon the record. Then there could be no sudden and unexpected death from uræmia or heart disease. The development of chronic disease should be most carefully guarded against, and the physician's advice should be followed with regard to the children's sports, the schools that they should attend, the sanitary condition of country resorts visited, and the food and clothing. Records of such matters, carefully kept, would be of the greatest scientific value, and, if the physician's influence were what it should be, social customs and fashions detrimental to health would no longer prevail. The family physician of the future would need to be a man of varied culture, deep learning, and solid judgment; he would have use for more diverse knowledge than any other man in the community. No man could become a good family physician by the mere study of medicine, using the term in its present narrow sense; to the higher education, of which we heard so much, should be added the broader education, of which we heard so little. This, said Dr. Smith, was something more than a fanciful sketch; it was a prophecy, and the signs that pointed to its fulfillment were not wanting even now.

THE QUESTION OF EXTRACTION AFTER VERSION.

It is the rule of practice with many that, in transverse presentations, turning by the feet should be followed by immediate extraction. This doctrine has recently been notably supported by Winter, on the strength of the histories of 310 transverse presentations at the maternity of the University of Berlin. Winter's propositions are: 1. Turning should not be performed until the os uteri is sufficiently dilated to admit of extraction. 2. The best results for the child will be secured when version is immediately followed by extraction.

In a recent number of the "Zeitschrift für Geburtshülfe und Gynäkologie," Dr. R. Dohrn, of Königsberg, assents to the first of these propositions, but not to the second. It is generally admitted, he remarks, that the child's life will be endangered if, the waters having escaped, the faulty presentation is allowed to go unremedied after the os is sufficiently dilated to admit the hand. Whether tetanic contraction occurs after such neglect, or not, and whether or not there is compression of the umbilical vessels, the diminution in the capacity of the uterus, and the consequent curtailment of the respiratory surface of the placenta, are enough to endanger the child's life. The exceptional cases in which neglected cases result in the spontaneous birth of living children are not to be considered as an argument for delay in turning, for it is probable that in such cases, although the liquor amnii below the child has drained away, enough remains above it to keep the placental circulation intact.

The waters, therefore, are to be looked upon as indispensable to the integrity of the fœtal circulation. On the other hand, version should not be performed too soon after the waters have escaped, for, if the degree of dilatation is insufficient at that time, there will be danger from compression of the cord by the cervix. The operation will not usually be difficult unless the uterus has already been subjected to repeated unskillful and unsuccessful manipulations. Rupture of the uterus, although possible in such cases, is not common, and as a rule it occurs only after the os has become completely dilated.

Winter's second proposition, as to the time which should elapse between version and extraction, is of great practical importance. That writer reports 236 cases of turning followed by immediate extraction, the os being fully dilated, in which only 5 children were born dead, against 27 cases of turning before the os was fully dilated, the course of the labor being then left to nature, in which 13 children were born dead. These facts, he thinks, speak forcibly in favor of waiting for full dilatation and then immediately following version with extraction. To Dohrn, however, these figures are not conclusive upon the general question, for the children in the second series of cases were placed under more perilous conditions than the others, in consequence of premature interference, and better results might have been secured, in all probability, if complete dilatation had been waited for.

Dohrn believes, with Boër, that in parturition the forces of nature should be allowed full sway until there is evidence that they can no longer be trusted, that every interference for which there is no definite indication is reprehensible, and that extraction without a special cause is no exception to this rule. The results of extraction will vary with the manual dexterity of the operator and the degree of his knowledge of the mechanism of labor. This is amply shown by contrasting the two per cent. of mortality after version in Winter's statistics, the operators being skillful obstetricians attached to a great hospital, with the fifty-seven per cent. of mortality which is given as the frightful rate in general practice in the Duchy of Nassau, according to a recent report. The inference is obvious that the natural forces were not given fair play in that locality. An important injunction is, that in extraction the force should be exerted in the direction which the uterine contractions indicate that the fœtus is to take in any given case. In 29 cases in Dohrn's public service in which turning was performed after the os was fully dilated, the delivery being then left to nature, there was not an accident, and he therefore infers: 1. That in transverse presentations podalic version should be performed only when the os uteri is fully dilated, although to this there may be occasional exceptions. 2. That extraction should follow immediately upon version only when there is a well-defined indication for such a procedure; if there is no such indication, the safety of both mother and child will be most favored by awaiting delivery by the unaided natural powers.

MINOR PARAGRAPHS.

RECENT SANITARY REPORTS.

The "Seventh Annual Report of the State Board of Health of New York" and a "Report on Improved Methods of Sewage Disposal and Water Supplies," by Dr. C. W. Chancellor, of Baltimore, issued by the Maryland State Board of Health, are among the sanitary publications that have lately reached us. Apart from the consideration of local affairs, the New York report deals with but few matters of general interest. One of them concerns the question of allowing the sale of French canned peas and beans colored with copper sulphate. The documents that are given under this head are mostly written in pigeon English—execrable enough to make the members of the old Continental "committee on style" turn in their graves. But the conclusion, which is chiefly of interest, is that such products may safely be sold, provided the proportion of metallic copper does not exceed three quarters of a grain to the pound, the fact being "plainly stated on the label." What safeguard there may be in this or any other statement on a label, it is not easy to see. Dr. Chancellor's report deals largely with suction methods of freeing drain-pipes. It does not admit of condensation, but will well repay perusal.

THE NEW YORK ACADEMY OF MEDICINE.

We are informed that a substantial addition to the library and building funds was lately made by Mrs. John Jacob Astor. This is not the first time that the Academy has profited by Mrs. Astor's generosity. We understand that in this instance her attention was turned to the needs of the institution by Dr. Fordyce Barker, whose efforts in behalf of its continued and extended support have often been exerted to good effect. The Academy is urgently in need of a better building than the one it now occupies, which was formerly a dwelling-house, and we trust that the endeavor now being made to add enough to its funds to warrant the early purchase of a building site and the erection of a structure suited to its purposes will be completely successful.

AN ALLEGED MEDICAL NOBLEMAN IN THE RÔLE OF A SWINDLER.

The press dispatches announce the arrest, in Reading, Pa., of a distinguished-looking individual whose cards bear the legend "Doc. Med. Wilhelm von Wallenstein, k.-k. Regimentsarzt," and who gave his name as Baron von Wallenstein. The arrest is said to have been made at the request of the police of New Haven, Conn., where the Baron is said to have obtained various sums of money from several physicians on false pretenses, also to have been guilty of embezzlement and forgery. If he is not a mere pretender, it is only charitable to suppose that he is the victim of insanity.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

At a meeting of the Hospital Saturday and Sunday Association, representing twenty-eight hospitals, held at St. Luke's Hospital last Monday evening, it was shown that the disparity between the receipts and the expenses of those institution, amounted to a deficiency of about $300,000, to be made good by private contributions and by the collections made through the agency of the association. This year the church and synagogue collections are to be made on Christmas and the day preceding it. A proposition to allow the out-patient departments of hospitals to share in the fund was reported upon favorably, and the by-laws were amended so as to discourage designated contributions and to extend the scope of the distributing committee's discretion. It is to be hoped that this year's collection will be handsomely increased over that of any former year.

NEWSPAPER MEDICINE AGAIN.

One of the daily papers lately published an ill-natured and flippant account of an operation for the removal of an intracranial tumor, performed at the New York Hospital. An antipathy to the institution seems to be betrayed in the assertion that the patient would have died of hæmorrhage, the surgeons being at their wits' end, "had not a means of relief commonly employed in Bellevue Hospital been tried as a last resort."

MODES OF INFECTION.

This very important subject Dr. William H. Welch, of the Johns Hopkins University (no longer, we regret to say, of New York), made the theme of an annual address recently delivered before the Medical and Chirurgical Faculty of the State of Maryland. It is unnecessary to say that he handled it in a manner most edifying. In its printed form, one great value of the address to the reader lies in its breadth of view, well exemplified in the statement that "it is an error to construct exclusive theories of infection, such as are expressed by the terms 'soil hypothesis,' 'drinking-water hypothesis,' etc."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 22, 1887:

DISEASES.	Week ending Nov. 15.		Week ending Nov. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	18	2	27	7
Scarlet fever	80	5	95	18
Cerebro-spinal meningitis	1	2	2	2
Measles	39	6	41	6
Diphtheria	115	32	133	42
Small-pox	2	1	1	0

The Health of New York City.—During the four weeks ending Tuesday, November 22d, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: 98 cases of typhoid fever and 20 deaths; 319 cases of scarlet fever and 44 deaths; 11 cases of cerebro-spinal meningitis and 11 deaths; 154 cases of measles and 6 deaths; 524 cases of diphtheria and 161 deaths; 7 cases of small-pox and 2 deaths.

Society Meetings for the Coming Week:

Tuesday, *November 29th:* Boston Society of Medical Sciences (private).

Wednesday, *November 30th:* Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *December 1st:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *December 2d:* Practitioners' Society of New York (private).

Saturday, *December 3d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of November 9, 1887.

The President, Dr. Charles McBurney, in the Chair.

A Successful Case of Laparotomy for Bullet-wound of the Intestine.—Dr. F. Lange reported the following case: On the 12th of October he had seen at the German Hospital a boy, fourteen years of age, who twenty-four hours before, while playing with a small revolver of 22 caliber, had shot himself in the abdomen, the ball entering three centimetres below the navel, and two centimetres and a half to the left of the median line. He did not look as if he was suffering from shock. His pulse was 112 to 120, his temperature 101° F., and he did not have much pain, although there was marked tenderness on making pressure over the left hypogastrium. There was some tympanites and the abdominal wall was tense; the breathing was almost entirely costal. The normal liver-dullness was preserved, and there was no change in the ordinary percussion sounds. There was evidently commencing peritonitis, thus far limited to the left hypogastric region. Laparotomy was performed at once, the abdomen being opened in a line with the point of entrance of the bullet. The track of the latter could not be traced through the muscles, nor could any wound be found in the peritonæum, although there was a small extravasation in the retroperitoneal space. On opening the peritonæum, about an ounce of brownish sanguinolent fluid escaped. The wound was enlarged to about fifteen centimetres, and the intestines were lifted out and carefully examined. Seven perforations were found in the gut, both walls being pierced in three places, while the fourth wound involved only one wall. About four ounces of bloody fluid were discovered at the deepest point of the abdominal cavity, but it did not have a fæcal odor, nor was any fæcal matter mingled with it. The openings in the intestinal wall appeared as small grayish spots surrounded by zones of hyperæmia. Nowhere was the mucous membrane everted, but all those spots seemed to be firmly closed. At one point the track of the ball was visible in the wall of the gut. Six of the perforations were closed with three or four interrupted sutures of iodoformized catgut, while the seventh was not touched, as it seemed to be firmly united. The boy made a good recovery. The temperature did not rise above 101° and became normal on the twelfth day, after evacuation of a mural abscess. The bowels moved spontaneously on the third day in spite of opium, the discharge being dark in color and very fœtid, this being probably due to decomposed blood. During the next four days they moved three or four times daily. The ball was not found in the stools, although search was made for it. The interesting question in the case was, Might the boy not have recovered if no operation had been performed? The exudation and extravasation might have been absorbed and the peritonitis localized. To what degree, the reporter asked, did the danger from gunshot wounds increase in proportion to the size of the projectile? There were cases on record in which spontaneous recovery had followed wounds from small bullets. In the one reported there was no evidence that fæcal extravasation had occurred, and apparently the closure of those small wounds had taken place so promptly and accurately that, under proper care and treatment, without operation, the danger of secondary escape of the contents of the gut could perhaps have been avoided.

Dr. L. A. Stimson recalled the case of a man who had received a bullet-wound of the abdomen, the ball, which was of moderate size, entering a little to the left of the median line, midway between the border of the ribs and the umbilicus. He saw the patient on the following day, and had found a slight elevation of temperature with marked tympanites. The wound was not probed, but there was good reason to believe that the bullet had passed into the abdominal cavity. Opium was administered and the patient made a good recovery.

Dr. J. A. Wyeth said that in July, 1887, he was called to a neighboring city to see a boy, aged sixteen, who had been wounded by a rifle-ball (38 caliber), which had entered the abdomen at a point two inches above the crest of the right ilium, and half way between that spot and the spines of the vertebræ, and had come out one inch below and to the left of the umbilicus. The boy had complained of severe pain and had suffered from shock lasting for four or five hours, after which he had rallied and had been in good condition from 10 p. m. until 6 the next morning, when symptoms of peritonitis had developed. The speaker saw him at 1 p. m., nineteen hours after the accident, and found him delirious, with a pulse of 160, a high temperature, and a tympanitic abdomen. He declined to operate, as death was inevitable. The boy died two hours later. He was strong and hearty, and would probably have recovered if laparotomy had been performed at once. Although an autopsy could not be obtained, the intestine had doubtless been perforated.

Dr. R. J. Hall said that he had seen two cases of recovery from bullet wounds made with a 22-caliber revolver. He asked if any of the members had seen a fatal case.

Dr. R. Abbe replied in the affirmative. He had had under his care a strong man who had received a wound in the abdomen from a bullet of 22 caliber. The ball had entered just below the umbilicus and exactly in the median line, perforating the intestine in four places, and the wall of the bladder in one; it remained within the latter viscus. Laparotomy was performed six hours after the occurrence of the injury, and a pint of greenish fluid mixed with fæcal matter was found just underneath the parietal wound, and surrounded by adhesions. The man died of shock fifteen hours after the accident. Uræmia doubtless contributed to his death, as complete suppression of urine occurred several hours before.

Dr. Wyeth cited an instance of rapid formation of adhesion after a secondary laparotomy for volvulus of the intestine. The gut had been so distended that it had been necessary to puncture it in several places, the punctures being closed with sutures of black silk. The patient died in three hours, and even in that short time the sutures had become almost entirely concealed by plastic lymph.

Dr. Stimson said that about a year ago he had seen a gentleman who had accidentally shot himself with a revolver of 45 caliber, the ball entering the body a little to the left of the xiphoid cartilage, and emerging at a lower point in the back, near the vertebral column. When seen he had paroxysmal dyspnœa with extreme pain. The wound was not probed, except to a sufficient depth to establish the fact that the ball had perforated the seventh costal cartilage; it was plugged with iodoform gauze. Under the use of opium, with rest, the patient recovered in three weeks. The bullet had probably traversed the anterior part of the diaphragm, perhaps also the abdominal cavity, and had certainly perforated the pleura, as the man had all the symptoms of perforation of the lung—hæmoptysis, with dullness over the lower part of the chest.

Dr. Lange thought that it was important to gather further experience about the question, how soon, on an average, after perforation of the intestine with fæcal extravasation, symptoms of septic peritonitis appeared, and whether in a case like the one reported, where twenty-four hours after the injury only localized peritonitis existed without particularly alarming symptoms, the assumption might be justified that the peritonitis was not due to the escape of the contents of the gut into the peritoneal cavity. The operation necessary in searching for bullet wounds in the gut would always be a serious surgical interference, carrying dangers in itself, to avoid which might, in a given case, be of the greatest importance.

Dr. H. B. Sands said that laparotomy in gunshot wounds of the abdomen ought to be performed before the occurrence of septic symptoms. Experience must show how far we might safely explore the abdomen in order to ascertain the exact nature of an injury. Many patients doubtless lost their lives because the surgeon waited too long. Recovery, to be sure, was possible in the case of wounds made by small projectiles, but even those of small caliber might cause fatal extravasation. If it could be shown that laparotomy was not in itself very dangerous, it might obtain the preference in nearly every doubtful case, even when the bullet was very small. Until it was known just what the risks of the operation were, most surgeons would favor laparotomy. It might subsequently be shown that laparotomy for gunshot wounds of the abdomen was a very dangerous procedure, and the statistics would perhaps never bear comparison with those of the operations performed for the removal of ovarian tumors.

Dr. Stimson thought it equally important to collect evidence to show the danger following perforation of the abdomen by bullets of small caliber, for if that danger should be less than that of explorative laparotomy, the operation might still be contra-indicated.

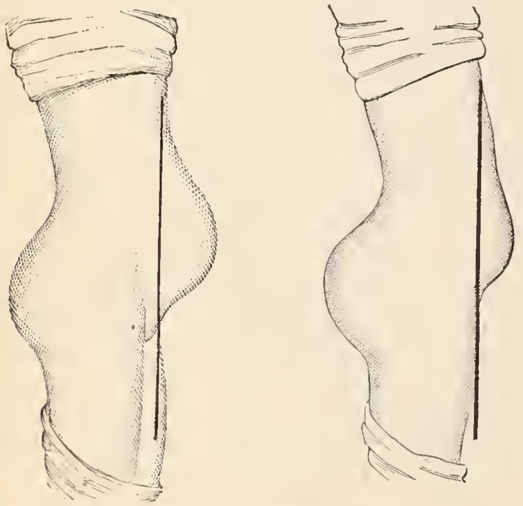
Dr. Wyeth thought that the reason why wounds of the intestine made by small projectiles did not invariably prove fatal was the fact that the gut was not filled with gas at the time of the injury. If gas should be present, it might escape into the peritoneal cavity, no matter how small the perforation.

Dr. Abbe called attention to the fact that in his case fæcal extravasation had clearly taken place from one wound in the free border of the intestine. At every inspiration of the patient fluid had been forced out at this point. It was evident that extravasation through such openings was inevitable as soon as the gut became full, whereas, when the perforations were at or near the attached border, this was not apt to occur.

Dr. Hall said that he could recall only a single case in which recovery had occurred after fæcal extravasation. In one instance (reported by Miculicz) some pieces of potato, but apparently no fæces, had escaped through a perforation resulting from a typhoid ulcer.

Dr. Lange was sure that there were several cases on record in which recovery had occurred after extravasation.

Marked Diminution in the Size of a Uterine Fibroid following Removal of the Appendages.—Dr. Abbe showed photographs of a patient upon whom he had operated a year before. She was a colored woman, aged twenty-four, who had a uterine fibroid, as large as a man's head, of three or four years' growth, which had occasioned severe pain and attacks of flooding. Laparotomy was performed, with the assistance of Dr. Peters. It was necessary to lift the growth out of the pelvis before the appendages could be reached and removed, so that an intelligent idea of its size was gained. She had made a good recovery, and had been perfectly well since the operation, so that she was able to work hard as a laundress. Menstruation had recurred regularly at intervals of twenty-eight days, but there had been neither pain nor flooding. Her sexual feelings were not impaired. The girl was examined a day or two since, and it was found that the tumor had diminished in size at least one half.



Dr. Lange said that he had had two patients under observation for upward of a year, upon whom he had performed the same operation. In both cases the growth had diminished to one half the former size. One patient had not menstruated at all; the other had continued to menstruate for some time, and then had epistaxis every month instead.

Dr. C. K. Briddon asked if the persistent menstruation could not be explained by reference to the presence of a third ovary.

Dr. Abbe thought that this explanation could not be generally urged, because the recorded cases of supernumerary ovaries were comparatively few, while persistent menstruation after removal of the appendages was not uncommon.

Calculus of Peculiar Shape.—The President exhibited two calculi which he had removed by the lateral section from a boy eleven years of age. One stone was almond-shaped, while the other was larger, and presented two concave surfaces, which had apparently resulted from alternate friction against the other calculus. There was nothing peculiar about the shape of the bladder.

Dr. Lange asked if the biconcave stone might not contain a foreign body.

The President did not see how this would account for the peculiar shape of the calculus.

Dr. Briddon said that if a foreign body formed the nucleus it would be apt to have concentric layers completely surrounding it.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 26, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

Injuries of the Fœtus during Labor.—Dr. Theophilus Parvin read the following paper: Though injuries of the child during labor are not frequent, probably they are much less rare than is commonly believed. In many instances they are not recognized immediately after delivery, and they may spontaneously disappear, and in some their consequences are attributed to erroneous causes. Some of these lesions may happen in spontaneous labor, and others in artificial, whether the interference is manual or instrumental. It is impossible to classify them according to their causes, and apparently the most satisfactory division is one resting upon the regions or parts affected. Hence, in the paper now presented, injuries to the fœtus in labor will be divided into those involving the head and neck, those of the trunk, and, finally, those of the extremities.

Injuries of the Head and Neck.—Contused wounds of the scalp and of the face, and incised, punctured, and lacerated wounds of the former are met with. So far as contused wounds of the face are concerned, it usually happens that they follow difficult delivery with the forceps, especially if the instrument is a powerful compressor; so, too, these result if the blades are applied obliquely, or antero-posteriorly to the head instead of to its sides. But in almost all cases the effects are trivial and soon disappear. Punctured and incised wounds of the scalp have been made by the obstetrician mistaking a caput succedaneum for the fœtal sac. Tarnier mentions an instance of a wound thus inflicted leading to the death of the child from erysipelas a few days after birth. More extraordinary is a lacerated wound of the scalp made in the effort to apply the forceps, the operator introducing one of the blades between the scalp and the cranial bones. An example of this terrible blunder is mentioned by Charpentier, and I have met with a similar case.

Sloughing of a portion of the fœtal scalp has been observed following some cases of spontaneous labor. Thus, Priestley[*] has reported a case of this kind, resulting in death eight days after delivery; the labor was protracted for forty-eight hours because of a narrowed pelvic outlet. Lizé,[†] of Mans, states that in the case of a multipara, forty years of age, the waters ruptured five days before the birth of her child, which presented by the vertex, but occupied an occipito-sacral position. Five days after delivery a slough involving almost the entire extent of the occipital bone appeared; three days subsequently it became detached and the child recovered.

Bouchut[‡] quotes from Lorain a case of gangrene of the scalp in a new-born child occurring in the service of Moreau at the Maternité. The mother was a primipara, and the labor lasted forty-eight hours, terminating spontaneously; the child died on the nineteenth day.

Dr. Goodell informs me of a case in which an oblique application of the forceps was made—one blade being in relation with the right frontal bone, and the other with the left occipital—and the right anterior portion of the head was so bruised that sloughing occurred a few days subsequent to birth; after the detachment of the slough a fatal hæmorrhage occurred.

Depressions and fractures of the cranial bones, separation of their union to each other, fractures of the bones of the face, as well as disjunction of their articulations and joints, have been observed more or less frequently in cases of difficult labor, manual or instrumental—some of them, indeed, in spontaneous labor.

In regard to depressions of the bones of the fœtal skull, some obstetricians have asserted that they are always accompanied by fractures. That was the opinion of Danyau, of Lachapelle, and of Schröder. But the following case,[#] given by Matthews Duncan, seems to strengthen the view held by most obstetricians, that such depressions may occur without the bone involved being broken. The case was one in which persistent digital impression was produced on the right parietal bone of a fœtus during birth by the finger of the accoucheur, who was endeavoring to cause rotation. The result was slight, short, but frequently repeated epileptoid seizures, which lasted some time after the digital impression had disappeared, and were finally replaced by choreic movements. Now, it seems hardly probable that the pressure of the finger produced a fracture of the bone. Dugès[‖] has given an instance of great depression in one of the parietal bones, not followed by any serious consequences. The child was extracted by the feet through a pelvis of which the conjugate was estimated at three inches and a quarter. Powerful traction upon the shoulders and upon the lower jaw was necessary to bring the head past the obstruction, and the parietal bone, which was in relation with the sacro-vertebral angle, presented a depression half an inch in depth and two inches in breadth. The infant was resuscitated with difficulty, then had convulsions, but in a few days was quite well, and in fifteen days the depression had entirely disappeared. Minor depressions or indentations are sometimes seen, especially after the application of the forceps, and in rare instances such marks are permanent. But we must not be in haste to conclude that these indentations found upon the head of a new-born child are proofs of instrumental delivery, for Osiander[△] has stated that, having extracted a child by podalic version through a narrowed pelvis, he found upon its head a depression into which the end of a forceps-blade accurately fitted; so that he himself would have concluded, had he ever seen a similar depression, that the delivery had not been spontaneous, but by the forceps.

Fractures of the fœtal skull have been observed as the result of direct violence, as when a woman expels her child while she is standing, and it falls on the floor. Or, again, a woman,[*] near the close of the second stage of labor, the child's head being at the vulvar opening, threw herself out of the window, and several fractures of her limbs, as well as a fracture of the child's head, resulted.

But apart from these cases in which the injury has resulted from direct violence, and those observed in delivery, whether spontaneous, manual, or instrumental, in narrowed pelves, which will be referred to in a moment, fracture may occur when the labor is in all respects perfectly normal, so far as duration and facility are concerned. Thus, Dr. Charles West[†] has reported the case of an infant dying from convulsions nine days after birth, the labor having been an easy one and lasting but five hours; the mother had previously given birth to two living children, and these labors too had been normal. Yet upon an autopsy of the third child, a fracture of the right parietal bone, with effusion of blood between the cranium and dura mater, the effusion being more than half an inch thick and occupying the entire fossa of the bone, was discovered. He states in his report that fractures of the skull have been known to take place during easy labors, and to have been independent of any preternatural degree of ossification of the skull. Monteith[‡] mentions having attended a case of perfectly natural labor, yet the child had a fracture of the right parietal bone; there was a marked depression in the middle of the bone, and the fracture extended to the sagittal suture on one side, and to the coronal on the other. It is quite apparent that a case such as either of these might give rise to medico-legal investigation or to unjust censure of the obstetrician.

Coming now to fractures of the bones of the cranium or face, or rupture of joints involving the maxillary symphysis, or the cervical vertebræ, or fracture of a vertebra, for it is maintained that usually the body of one is broken rather than that a separation takes place between two vertebræ, as the consequence of great traction occurring in manual or in instrumental delivery, an important question arises as to the amount of force that may be safely used with either hand or instrument. In illustration of the great force which has been employed in forceps delivery without injury to mother or child, I quote the following from Dr. Peugnet.[#] He states:

"I was called to Mrs. K., a multipara, in labor with her third child. The first two were delivered by craniotomy. The vertex presenting, R. O. A., and impacted between the sacrum and the pubes, the conjugate diameter of the superior strait greatly contracted, I applied forceps, and had great difficulty in locking them. Dreading the laceration which might ensue in this case from side-to-side lever action, I concluded to rely upon direct and steady traction. My strength giving way, her husband held me round the waist, while the patient was held *in situ* on the dorsum by four women. In forty-five minutes I had the satisfaction of bringing the head down upon the perinæum. The delivery was then speedily accomplished. Both mother and child, a girl, did well."

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[*] "Trans. of the Obstet. Soc. of London," vol. i.

[†] "Annales de gynécologie," 1875.

[‡] "Traité pratique des maladies des nouveau-nés," etc.

[#] "Brit. Med. Jour.," October 18, 1873.

[‖] Quoted by Jacquemier, "Manuel des accouchements," Paris, 1846.

[△] Given by Ciéslewicz, "Verletzungen des Fötus durch den Geburtshelfer," Halle, 1870. Ciéslewicz gives forty cases of fracture, fissure, contusion of nerves, laceration of muscles, separation of epiphyses, etc., occurring in labor; he also reports two of rupture of the longitudinal sinus.

[*] Delore, "Fractures du fœtus," "Dictionnaire encyclopédique des sciences médicales."

[†] "Trans. of the Med.-chirurg. Soc. of London," 1845.

[‡] "Lancet," Nov. 14, 1874.

[#] "Ohio Med. and Surg. Jour.," 1878.

The least that can be said in regard to this case is, that the result was very remarkable, and it is doubtful whether the practice pursued could be repeated in any considerable series of similar cases without injury to both mother and child.

Delore,[*] after remarking that the fœtal head may endure, without injury, a great compressing force if applied to a large surface, and if made by a regularly concave surface, as that of the blades of the forceps, states that from his experiments he found a compressing force of one hundred kilogrammes did not cause a fracture. But, on the other hand, if the blades slip, if the pressure is made upon a small surface, fracture follows the exercise of much less force. Further, a blunt, angular body, such as the sacro-vertebral angle, the spherical surface of which is described by a radius of two or three centimetres, produces a fracture with a force of twenty kilogrammes. As the force which is exerted in difficult labor is more than twenty kilogrammes, fracture results.

Nevertheless, these results are not in complete accord with those of Goodell,[†] though, as will be seen, he is discussing the question of the amount of force of traction that may be safely used in a narrowed pelvis without injury to the neck of the child. Nevertheless, the subject of injury to the bones of the head is also involved, and in only one instance, I believe, does he mention fracture of one of the cranial bones. He states that he has on several occasions extracted living children after throwing on their necks a weight of 130 pounds. He further says that, although exerting all the manual strength at his command, he has never seen the body part from the head; he mentions one instance in which there was not the slightest apparent injury to the neck, though the sacral side of the head had been broken in. Further, in another case, the force of traction upon the child's head, combined with suprapubic pressure, amounted to 200 pounds. Stone[‡] has more recently reported a case of podalic version, and delivery by traction through a narrowed inlet, in which he put on the neck of the child all the force of which he was capable, using the pump-handle movements described by Goodell. The child was dead. There was no fracture of the bones of the head.

"The spine had parted in the upper dorsal region during the traction upon the trunk, which was necessary to cause the shoulders to come low enough to reach the arms. The cervical spine was not broken."

Delore's conclusion as to the amount of force followed, in pelvic narrowing, by fracture of the cranium of the fœtus is erroneous, or such injury ought to have been observed in all the cases where a force even approaching 100 pounds was used.

Champetier's[#] investigations as to the force that could be safely used in delivery led him to the following conclusions, the first of which does not correspond with the results obtained by Goodell: First, there is danger of fracturing one of the parietal bones, whatever the method of extraction, if the total force employed reaches thirty-five to forty kilogrammes, the infant being at term, twenty to twenty-two kilogrammes if it is premature. Second, the inferior maxillary of a child at term will bear, without rupture, a traction of twenty-five kilogrammes. Third, the vertebral column of an infant at term was ruptured in three cases by a force of fifty kilogrammes. So far as it may be objected that these results were obtained by experiments upon dead children, and, therefore, they are not applicable to the force that may be exerted upon living ones, the answer of Matthews Duncan may be repeated. He, after consulting physiological and physical authorities, could say that a child living and one recently dead were the same as to tensile strength. In this connection it is well to refer to the amount of traction which may be safely applied to the lower jaw of the fœtus, as stated by Duncan[*] from his own experiments. It will be observed that his results are not the same as those announced by Champetier. Duncan states:

"It is now ascertained that a force of half a hundredweight (fifty-six pounds) may, at least in some cases, be applied by dragging the lower jaw of the fœtus without producing any easily discovered injury of parts."

He further says that compound dislocation would be almost certainly fatal, and in one of his experiments this injury was done by a weight of fifty-six pounds. Not only does Duncan's statement as to the force which the inferior maxillary will bear without injury differ from that of Champetier, but the difference is still greater from that given by Delore, who makes this forty kilogrammes.

Fractures of the cranium usually involve the parietal bones, but they may also occur in the frontal, in one of the temporals, or in the occipital. Jacquemier first pointed out the separation between the squamous and the basilar portion of the occipital bone, to which some more recent writers[†] have directed attention without giving him just credit. He has also stated that he has met with fracture of the occipital in that part of the bone above the protuberance.

Ruge,[‡] referring to separation of the epiphyses between the squamous portion of the occipital bone and the articular part, states that Schröder is the only one who has recently drawn attention to it, and, notwithstanding its importance in regard to the life of the child, this lesion is not referred to in classic works as one of the immediate consequences of extraction. The lesion may occur in a narrowed pelvis, though the presentation is cranial. In these cases there may be not only effusion of blood, but further compression by the squamous portion having its anterior inferior margin forced against the medulla.

On the other hand, severe injury of the frontal bone has been observed without serious consequences. Thus, Dugès[#] saw a child recently born, and the left eye was almost completely outside the orbit, so great was the depression of the frontal bone, yet the infant did not have convulsions or any other grave symptoms. I have, however, seen protrusion of the eyeball in a new-born following fracture of the frontal bone by Hodge's forceps, used in a case of tedious labor in a primipara, the delay being from an occipito-sacral position; the child lived for a week after birth. That an infant may survive very grave injuries in labor is proved by a case reported by Lamotte,[‖] in which a surgeon, in a case of shoulder presentation, had torn away the arm, and then performed craniotomy, evacuating a large amount of the cranial contents; yet the child was born alive. Zweifel[△] regards fissures and fractures of the cranial bones as only of clinical significance if a sinus is injured and consequent hæmorrhage occurs. On the other hand, Delore[◊] asserts that all these fractures are grave, on the ground that they may be accompanied by contusions of the brain. Further, there may be hæmorrhages between the bone and the periosteum, in the cavity of the arachnoid, or between the pia mater and the brain. If the solution of continuity is at the position of a sinus, there is frequently rupture of the vessel. He adds that in all cases in which the head has undergone severe compression from dystocia, he believes hæmorrhages occur. The significance of this last remark will be appreciated, especially when we consider the remote consequences upon the mental condition of the child, as urged more especially by some English observers.

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[*] *Op. cit.*

[†] "Am. Jour. of Obstet.," 1875.

[‡] "Med. and Surg. Reporter," February, 1880.

[#] "Du passage de la tête fœtale à travers le détroit supérieur rétréci du bassin."

[*] "Trans. of the Obstet. Soc. of London," vol. xx.

[†] Thus Bednar, "Die Krankheiten der Neugeborenen und Säuglingen," Vienna, 1863, refers to it as a hitherto unobserved injury.

[‡] "Bull. gén. de thérap.," from "Zeitschr. f. Geburtsh. u. Frauenkrankh.," 1875.

[#] Jacquemier, *op. cit.*

[‖] "Traité des accouchemens," 1726.

[△] "Lehrbuch der Geburtshülfe."

[◊] *Op. cit.*

Injuries to the bones of the face are usually of the inferior maxillary. This bone may be fractured, or separation of the mental symphysis may occur. Ruge mentions cases in which, in addition to injury of the bone, there were lesions of the soft parts—as, for example, tearing of the skin at the angle of the mouth, as well as the mucous membrane of the pharynx and rupture of the genioglossus.

Yet, if we fail to use traction upon the lower jaw in cases of difficult head-last labors, we miss what may prove an important means of delivery in some cases, and which may be of great value when other means fail. Some years ago, in a case of narrowing of the pelvic inlet, having failed to deliver with the forceps, I performed podalic version, and sought to deliver by traction, while a consultant aided with a suprapubic pressure. I am confident I did not use the force which some operators have safely employed under similar circumstances, yet the cervical vertebræ gave way, either by separation or by fracture, and I found apparently nothing but the integument holding the head to the body. I then succeeded by traction upon the inferior maxilla, suprapubic pressure assisting, in bringing the head into the pelvic cavity.

That the head may be left in the uterus, the body being dragged away, is a fact proved by occasional instances in the history of obstetrics. In other cases the division has been made, not by rupture, but by cutting through the neck. An instance is reported * in which the obstetrician, failing to deliver the head in a case of shoulder presentation, after detaching the arm and bringing down the feet, performed decollation, and the head and the placenta remained in the uterus for forty days. Freund mentions a case in which the head was left in the uterus for ten years.

Probably the most remarkable case of multiple injuries to the face has been recorded by Petit. † The face presented, rupture of the uterus occurred, and the woman died undelivered, though the forceps had been used. The autopsy of the child showed multiple separations of the bones of the face and fractures.

Paralysis of one of the facial nerves has been observed most frequently, but not exclusively, after the use of the forceps. In a paper read before the American Gynæcological Society in 1885, I referred to eight cases of spontaneous facial hemiplegia, and also mentioned one case observed by Seeligmüller, in which the paralysis affected both sides of the face. But the disorder usually occurs from the use of the forceps, and is caused by the pressure of one of the blades at the stylo-mastoid foramen, or a little in front of the lobe of the ear. Landouzy, who has best described the affection, has remarked that in the infant the complete absence of the mastoid apophysis, and the slight development of the auditory canal, favor the possibility of this compression of the facial nerve near its point of emergence. In six weeks, according to Parrot and Troisier, recovery usually takes place in paralysis of the facial caused by forceps. Many patients, however, are well in ten days. Nevertheless, while recovery is the rule, it should be remembered that in some the injury is permanent. Duchenne * refers to two patients, one fifteen years old and the other five years and a half, in each of whom the paralysis continued. It should also be observed that there may be facial paralysis in the new-born caused by protracted labor and intracranial hæmorrhage. Injuries of the sterno-cleido-mastoid muscle have been observed by several. In reference to torticollis of obstetric origin, Stromeyer and Dieffenbach explained the affection as resulting from improper application of the forceps, the muscle being bruised or torn. Nevertheless, this explanation is rejected by Saint-Germain as not plausible. A very large proportion of infants that have wry-neck are born with pelvic presentation, and it is asserted that in the traction exerted rupture of a greater or less number of the fibers of the muscles takes place, and a hæmatoma follows; finally, the contractions of the cicatricial tissue result in drawing the head into its unnatural position. One of the first references to tumors of the sterno-cleido-mastoid was made by Melchiori † in 1862. He spoke of them as indurations of muscle, sometimes met with in young infants, and to which he found no reference in authors. He met with the disorder four times, and he described the affection as an indurated plastic deposit; while he mentions temporary deformity of the neck, he does not speak of any case in which this was permanent. In referring to the ætiology, he suggests that compression of the muscle or laceration of some of its fibers may take place during labor. The next year both Dr. Wilks and Sir James Paget ‡ met with cases of what they described as chronic induration of the sterno-cleido-mastoid. Another case of the affection was reported the same year by Harris, and thus the published cases in a few months were at least six, but no reference was made by any of the reporters to the previous observations of Melchiori. Bryant,# in 1863, reported two cases of thickening of the sterno-cleido-mastoid. One patient was four, the other eight weeks old when he saw them; in each instance the birth was with pelvic presentation. Probably in all the cases, or at least in a majority of them, the disease was hæmatoma. Nevertheless, Blachez ‖ regards these tumors as caused by an interstitial myositis in consequence of traction upon the muscle. He describes the tumor observed in one of his patients as elastic, almost painless, and of the size of a pigeon's egg; it was situated in the right sterno-cleido-mastoid, and was not discovered until two or three weeks after birth, when the attention of the parents was called to it by the infant's keeping the head inclined to the right side. Zweifel recognizes injuries of the sterno-mastoid muscle in labor as a cause of torticollis.

Professor Albert, △ of Vienna, referring to a child with torticollis, states that the sterno-cleido-mastoid may become contracted during intra-uterine life, or be injured during birth. In breech presentations and in difficult forceps delivery a laceration of this muscle may occur, and be followed by inflammation and contraction. While such injury is more frequent after head-last labors, yet it is also met with in vertex presentations, and if the forceps has been used.

On October 2, 1861, a paper was presented to the Obstetrical Society of London by Dr. Tyler Smith for Dr. W. J. Little, the title being "Upon the Influence of Abnormal Parturition, Difficult Labors, Premature Birth, Asphyxia Neonatorum,

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* "Obstet. Gaz.," from "Arch. f. Gynäk.," March, 1883.

† "Ann. de gynéc.," 1874.

* See Nadaud, "Des paralysies obstétricales des nouveau-nés."

† "Med. Times," London, vol. ii, August 9, 1862.

‡ "Lancet," vol. i, 1863, pages 11, 236, and 313.

London "Med. Times."

‖ "Gaz. hebdom. de méd. et de chir.," May 19, 1876.

△ "Obstet. Gaz.," September, 1882.

on the Mental and Physical Condition of the Child, especially in Relation to Deformities."* In this paper, which by the way mentions two cases of wry-neck that he attributed to difficult labors, the author says:

"It is impossible not to connect the persistent affections of the intellect, of volition, and of organic life, with the injury the several nervous centers suffered, in some instances before the fœtus had reached the maternal pelvis, in others while in transit through it; and in a third set of cases, where the fœtus was exposed to neither of these kinds of injury, it suffered from asphyxia neonatorum, suspended animation, and its concomitant congestions, effusions, capillary apoplexies of the brain, medulla oblongata, and spinal cord."

Dr. Langdon Down, in discussing the obstetrical aspects of idiocy, stated that in a very large number of cases of idiocy the subjects were born after difficult labors, these being unusually tedious, and he held that if a neurotic tendency was present the tedious labor and suspended animation might determine the catastrophe, where otherwise all might have gone fairly well.

The following note from one of Dr. Little's† correspondents may be of some interest; it is in reference to a young man in regard to whom inquiry had been made by Dr. Little:

"I have again ascertained he was asphyxiated for two hours when born, and that he has always been a weak creature, very slow in mental development, with difficulty in speaking, trembling and shaky, unable to fix his attention on a book, and a bit of a punster." The final statement, "a bit of a punster," is conclusive as to the intellectual feebleness of this unfortunate man!

These views are further strengthened by the statement of Dr. Arthur Mitchell‡ that he believes there is a connection between difficult labor and idiocy.

Injuries of the Trunk.—The chief lesions of the trunk are rupture of the connections between the dorsal vertebræ, or fracture of one of these, injuries to the abdominal wall by a badly directed blunt hook, effusion of blood in muscles, similar to those that have been referred to as occurring in the sterno-cleido-mastoid, retropleural hæmorrhages along the spinal column in case rupture of this column occurs, hæmorrhage into the abdominal or thoracic cavity, and collections of blood beneath the capsule of the liver, or of the kidneys, and rupture of the sacro-iliac joint. Ruge has collected forty-four cases of injuries to the fœtus occurring in extraction after version, and twenty-nine of injuries in pelvic presentations; in the former there are three of rupture of the sacro-iliac joint. It is probable, as suggested by Zweifel, that some cases of ankylosis affecting this joint, of which the ætiology is obscure, are to be attributed to injury in birth. Zillner# has reported a rupture of the sigmoid flexure occurring in labor.

Injuries of the Arms.—In connection with these lesions those of the scapula and clavicle, which belong to the arms rather than to the trunk, will be considered. Delore states that fractures of the humerus are more frequent than all others; since they are usually readily cured, and are generally caused by *maladresse*, they are rarely published. But he further says that this accident may occur in the hands of the most expert accoucheur if the pelvis be contracted. It most frequently occurs in the disengagement of the arms after podalic version when extraction is necessary, and may also happen in pelvic presentation, but usually, if we do not have to extract the child—that is, if the expulsion can be left solely to nature—the arms will not ascend, but remain applied to the chest. Smellie* states that he fractured the humerus in a case in which he turned and delivered by the feet, and this is the only one he gives, while he mentions three cases of fracture of the femur, two occurring in the practice of his assistants, and one in his own. All obstetricians agree that in bringing down an ascended arm it is important that no pressure be made until the internal angle of the elbow is reached, and that three or four fingers should be employed, and not one or two. Pajot regards it as important that the posterior arm should be liberated first. Küstner† describes separation of the epiphysis of the head of the humerus from the diaphysis as one of the injuries of labor which may be overlooked or falsely regarded as a luxation, fracture of the neck of the scapula, or injury to nerves. Fractures of the clavicle, separation from its sternal attachment transverse fracture of the scapula, separation of the epiphysis of the neck of the scapula, injury of the acromion process, and dislocation of the humerus have been observed. Fracture of the clavicle is most frequently caused by pressing directly with one or two fingers in the endeavor to bring the head through the pelvic inlet after podalic version, or in pelvic presentation. M'Clintock, in one of his annotations to the Sydenham Society's edition of "Smellie," observes: "Although Smellie gives no example of fracture of the child's clavicle during delivery by the pelvic extremities, yet, in my experience, it is a bone very apt to be broken by the manipulations of the accoucheur—more so even than the humerus; this may, perhaps, be explained by its greater degree of ossification."

Paralysis of the Arm.—Sinkler recognizes hemiplegia as, in some cases, the consequence of injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. Nadaud gives seven cases of paralysis of the arm attributed to the forceps; the first one of this injury reported is one of Smellie's. Jacquemier mentions an instance of paralysis of the deltoid following a long and difficult, but spontaneous, labor; the recovery was complete in fifteen or twenty days. He attributed the disorder to compression of the axillary nerve against the humerus at the point of its attachment to the deep face of the deltoid. Fasbender found a tumor, as large as a pigeon's egg, situated above the right clavicle, in an infant soon after delivery; the hæmatoma gradually disappeared, but at first there was paralysis caused by nerve compression. Delore suggests that paralysis may be caused by the rupture of a nerve-trunk near its connection with the spinal cord. He states that this accident is not rare in the new-born or in young infants as a consequence of traumatism; it is followed by incurable paralysis, which is compatible with life if an upper member only is affected. Disengagement of the extended arms in pelvic deliveries, traction upon the axilla in delayed delivery of the body in vertex presentation, the traction in some cases being with the blunt hook, in others with the finger, have resulted in paralysis of the arm. So, too, the same disability has followed a case in which the arm has protruded in shoulder presentation, and delivery been effected by podalic version. Luxation of the humerus has, in some instances, been mistaken for obstetric paralysis. Further, it is important to distinguish between cerebral and traumatic paralysis. Duchenne * gives an instance in which there were both cerebral and obstetric paralysis, the latter consequent upon a fracture of the ulna near the elbow.

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* "Trans. of the Obstet. Soc. of London," vol. xviii.

† *Ibid.*, vol. iii.

‡ "Med. Times," 1862, 1863.

# "Ctrlbl. f. Gynäk.," 1885.

* Sydenham Society's edition of Smellie's "Midwifery," vol. iii, pp. 296, 297. This great obstetrician, in the first volume, *op. cit.*, remarks: "In laborious or preternatural cases, when considerable force hath been used in delivering the child, the whole body ought to be examined, and if there is any mark or contusion on the head it will disappear if anointed with pomatum and gently rubbed off or chafed with the accoucheur's hand; if any limb is dislocated or broken, it ought to be reduced immediately; luxations, though they seldom happen, are more incident to the shoulder than to any other part, the humerus being easily dislocated, and as easily reduced. The ones of the arm and thigh are more subject to fracture than any other of the extremities; the first is easily cured, because the arm can be kept from being moved, but a fracture of the thigh-bone is a much more troublesome case, because, over and above the difficulty of keeping the bones in a proper situation, the part is often necessarily moved in cleaning the child."

† "Ueber die Verletzungen der Extremitäten des Kindes."

Fractures of the femur may be spontaneous, or consequent upon artificial delivery. Meyer has recently † reported two cases in which spontaneous fracture of the femur was observed; in one a single femur was broken, but in the other both femurs. In May, 1847, Dr. Vanderveer ‡ reported a case of such fracture in childbirth. But probably more fractures of the femur are to be attributed to the attempt to pull down a lower limb in pelvic presentation when the presenting part is already partially in the mother's pelvis, before pressing up that presenting part, or from the use of the blunt hook. Delore's experiments show that with the untired finger traction to the amount of fifteen kilogrammes may be made upon the groin, and this can not break the femur. If a force of fifty-five kilogrammes is employed upon the femur, fracture occurs; if the instrument is perpendicular to the bone, the latter gives way with a pressure of twenty kilogrammes. Again, the bone has been broken, or that which is equivalent, separation of the epiphyses been caused, from traction upon the leg. A. R. Simpson mentions an instance in which, podalic version having been performed, the right lower limb brought down, and traction made, subsequent examination showed that there were three such fractures.#

Luxations of the femur consequent upon obstetric operations, according to Ruge, are exceedingly rare; upon 300 autopsies of new-born infants he did not find a single true dislocation of this bone. Küstner, in referring to luxations of the hip, speaks as follows:

"Göschen relates a case in which Langenbeck reduced such luxation after the subject, a girl, was thirteen years old, and mentions in this connection that Stromeyer had met with twenty cases. The only possible way in which this injury could occur would be by sudden and violent force drawing down the limb, and then dislocation upon the ilium might result. But the force must be great. I have suspended to the leg of a child, from six to ten minutes, a weight of from thirty to forty kilogrammes, without any injury to the joint."

Complete paraplegia in connection with facial paralysis of the right side has been observed following a difficult labor in which the forceps was used. Examples of rupture of the spinal cord, in connection with rupture of a vertebra, have been observed, and, of course, paralysis of the lower limbs. It is remarkable that in two such cases the children lived for some hours. Paraplegia in the new-born is, as Nadaud states, usually an evidence of serious lesion of the cerebro-spinal organs, and the child dies after a short time.

I think the study of these cases of obstetric injuries, which might be greatly extended—for much more remains unsaid than has been said—ought, in the first place, to lead us to a larger charity for fellow-practitioners, as many of the most serious injuries in childbirth may occur without the slightest blame necessarily attaching to the accoucheur. Another lesson is that an important distinction should be made, as urged by Ruge, between podalic version and extraction, never resorting to the latter, unless absolutely necessary, after the performance of the former, and thereby many of the obstetric lesions of the fœtus may be avoided. Very wisely, Lamotte says, referring to the injuries that may be done in labor to the child by the accoucheur, "The hand improperly used is more dangerous than any instrument."

Again, the question arises as to the safest manual means for the delivery of the head in head-last labors. In Cieslewicz's collection of cases of injuries of the fœtus in labor, there are several in which very serious consequences resulted from employing the Prague method. One of these, reported by Gusserow, showed, upon post-mortem examination, rupture of the vertebræ and most of the soft parts of the neck so complete that the head was attached to the trunk only by the skin and the vertebral arteries. Ruge, rejecting both the Prague and the Vienna method, prefers elevation of the occiput, bringing the face down, and carefully conducted expression, as least liable to injure the fœtus.

Another question of practical interest is as to the best method of delivery in pelvic presentations, when interference is necessary. Should we follow that employed by Goodell, in all cases bringing down a foot as soon as possible, and thus be commander of the situation, in case necessity for extraction arises? Must we use the blunt hook? Is the application of the forceps to the breech to be generally advised?

Again, while treatment of fractures of an upper limb, or of the clavicle, is said to present usually no great difficulty, can a similar statement be made as to fracture of the femur? What method of treatment is best?

In depressed fractures of the skull, is it not probable that some lives might be saved by the use of the trephine? and in other cases, not followed by death, perfect mental integrity insured?

(*To be continued.*)

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* See Nadaud, *op. cit.*

† "Arch. f. Gynäkol."

‡ "New York Med. Jour."

# "Edinburgh Med. Jour.," 1880.

NEW YORK STATE MEDICAL ASSOCIATION.

(*Concluded from page 499.*)

Discussion on Typhoid Fever.—Dr. Alfred L. Carroll opened the discussion with a paper in which he propounded seven questions: 1. Does the term typhoid fever properly include all the varieties described by observers, or are there other continued fevers still undifferentiated commonly grouped under this head? The author gave an affirmative answer to the second part of this question. 2. Is typhoid fever always the product of a specific contagium from a pre-existing case, or may it arise *de novo* from filth-fermentation? There were so many cases of adynamic fever in isolated rural districts, resembling typhoid fever, in which no direct connection with known previous cases of typhoid fever could be traced, that some were disposed to answer the first part of the question in the negative. The difficulties in the way of an exact diagnosis, and of proving the absence of specific contagion, were considered. 3. What part is played by micro-organic ferments in the causation of enteric fever? This question, and the one following, the author discussed from an historical standpoint. 4. Is there a disease of the lower animals transmissible to man as typhoid fever? 5. What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation? The greatest source of danger was contaminated water. Implicit confidence should not be placed in artificial methods of purification. The simplest and safest thing to do was to boil the water. The public water-supply should be absolutely uncontaminable by drainage. 6. What are the complications and sequelæ properly associated with typhoid fever? 7. What are the indications for treatment, and are relapses and untoward complications favored by some antipyretic measures?

Dr. E. G. Janeway, discussing the first question, stated it as follows: Do we encounter in this state a form of continued fever not due to typhoid poison, but liable to be mistaken for typhoid fever? All physicians of practice must at times have seen cases in which they were in doubt as to the nature of the poison which was the cause of the fever. He had seen within one year as many as twenty cases of typhoid fever mistaken for remittent, malarial, typho-malarial, or simple continued fever. He thought the type of the disease had changed less than the diet and treatment, which now allowed it to run a more natural course, with less diarrhœa, etc. Typho-malarial cases were, he believed, simply cases of malarial fever with typhoid fever added, and he thought it wiser to stick to the nomenclature typhoid fever, and look upon the malarial element as a complication. As to the second question, difficulties were presented which to his mind prevented a thoroughly honest and yet a decisive answer. He admitted a germ as the original cause of typhoid fever, but it was difficult to give positive proof that the disease had never developed except from a pre-existing case. Alleged cases going to prove that it had developed *de novo* had many weak points. The speaker had long entertained the possibility of spontaneous origin, but he could not admit that the cases which he had seen, or those which had been communicated to him, or those of which he had read, proved it beyond doubt.

Dr. H. M. Biggs, after describing the bacillus found in typhoid fever, said it might certainly be affirmed that the disease produced in animals by inoculation with typhoid bacilli was not similar to that which occurred in man, because the induced disease terminated rapidly (in twenty-four hours or four days); nearly the same symptoms and lesions existed as after inoculation with the sterilized bacilli, and also after inoculation with earth and other bacilli. The severity of the symptoms was almost directly proportional to the dose of the bacilli. He summed up the evidence as follows: There were invariably found in the spleen, the mesenteric glands, Peyer's patches, and sometimes the liver and kidneys, in cases of typhoid fever, peculiar short, thick bacilli. This bacillus was the only organism found in the internal organs in uncomplicated cases of the disease, and it was never found in any other condition of health or disease. All experiments thus far to produce this disease in the lower animals had been unsuccessful. The bacillus found in the stools of typhoid-fever patients had in a few instances been found in the water which was the source of the disease. This organism must bear some relation to the disease, either as cause, accompaniment, or result, and there were no grounds for supposing it an accompaniment or result.

D. E. Salmon, D. V. S., of Washington, discussing the fourth question, said the facts which came under his observation were necessarily one-sided. He knew of no facts to show that there was a specific disease in animals which would produce the specific disease in man attributed to the bacillus described by Dr. Biggs. In the cholera of hogs there was a bacillus which was identical in microscopical characters with the bacillus described in typhoid fever, and it was similar in its ability to live and multiply in reasonably pure drinking water. But he had never seen the cholera disease of hogs produce specific typhoid fever in man. Referring to outbreaks of scarlet fever alleged to have originated from an eruption on the cow, he thought it had not been proved. The lesion on the cow was that of cow-pox. A large number of micro-organisms did produce ptomaines, and these produced symptoms similar to those of specific diseases. As a bacteriologist, he had for a long time been of the belief that immunity from certain diseases had been brought about by the action of ptomaines, and perhaps in the future we should be able to separate the specific ptomaines produced by the growth of the specific viruses of different contagious diseases, and by using these we should be able to produce a degree of immunity equal to that produced by one attack of the disease. If immunity was caused by these ptomaines, it seemed to follow that the germ could not produce the disease except by the ptomaine which it developed in the body and by lowering the vitality of the body. The only way in which we had been able to produce immunity by ptomaines was by inoculation.

Dr. Charles A. Leale and Dr. E. D. Ferguson discussed the fifth question in separate papers. As media of transmission, Dr. Leale spoke of the water, sewage, atmosphere, ice, food, vegetables, fruit, milk, clothing, and bedding. Flies could, he believed, also be the source of transmission of the poison. He quoted Carpenter approvingly on the disposal of sewage in farming.

Dr. Ferguson considered methods of destroying the contagium, and traced the origin of two outbreaks of typhoid fever in Troy, both being due to contamination of the drinking water, aided in one case by inhalation of ground-air following an overflow.

Dr. Charles G. Stockton discussed the seventh question. The patient should have a large, airy, sunny room, a large single bed, and a good nurse, should not be overfed, and the temperature should be regulated when necessary, first, if possible, by sponging. Alcoholics and narcotics should be administered as the case demanded.

The Address in Medicine was read by Dr. John Cronyn, of Buffalo, who pictured the part played by the different branches of medicine, physiology, pathology, and therapeutics, toward the advancement of the whole, which had its existence only for the prevention of disease and the restoration of health.

Cold as a Therapeutic Agent.—Dr. B. L. Hovey, having briefly considered the use of cold as a therapeutic agent by the ancients and physicians of modern times, gave some personal experience with it.

Small-pox in Brooklyn; Defective Isolation and Defective Vaccination.—Dr. Nelson L. North traced the recent epidemic of small-pox in Brooklyn, covering a year, to the case of an immigrant at Castle Garden. The number of persons found unvaccinated among those visited by the officials in the city was six thousand. He showed the defects of the present plan of vaccination and isolation in Brooklyn, not because that city was worse in these regards than others, but because he was better acquainted with it. The remedies proposed were, the passage of more exact laws having reference to the control of patients with contagious diseases, as well as stringent enforcement of those in existence. The unconstitutionality of such laws and the difficulty of controlling individuals constituted objections more apparent than real. We had entire control of the insane; the same might be true of small-pox patients. Treat them more humanely, banish the small-pox hospital, a relic of barbarism, give good nurses and physicians well enough paid to stay by the sick and care for them. A greater proportion of those in hospitals died than of those who concealed themselves at their homes. It was believed that some were sent to these pest-houses who did not have the disease, but there acquired and died of it. Insist upon better regulations therein, on comfort, cleanliness, care, and medical treatment, so that the patients could recover when recovery was possible, and the difficulties of the case would be practically overcome, and the isolation of the sick with small-pox would be easily effected. Vaccination should be made compulsory.

Specialists.—Dr. Henry C. Van Zandt in this paper made a plea in behalf of the general practitioner *versus* the specialists, who, he said, were becoming too numerous.

Epithelioma of the Vulva.—Dr. Thomas H. Manley, of New York, read the histories of two cases of epithelioma of the vulva, a disease which he regarded as malignant, like cancer, and for which in these cases he had performed excision. Thus far the results had been good. Epithelioma of the vulva had received little attention in the books.

Discussion on Placenta Prævia.—Dr. George T. Harrison, of New York, opened the discussion with a paper in which he first alluded to the importance of the study of the behavior of the cervix in the latter part of gestation and during labor. The older views seemed to have been established on a solid basis, but recently the arguments brought forward by Bandl had seemed to overthrow them in great part. The uterus was differentiated into the contracting and thickening upper part, and the expanding and thinning lower uterine segment and cervix. During labor the lower uterine segment was essentially passive, the upper part exhibiting active contractions, the boundary between the two being denominated by Schroeder the ring of contraction. The all-important symptom of placenta prævia was, of course, the hæmorrhage, the source of the bleeding being the placental site, and the cause being the separation of the placenta. In treatment the important problem to solve was to guard the patient against two dangers—bleeding first, sepsis second. The special liability of women who were the subjects of placenta prævia to septic infection was explained by the lower situation of the placenta, and by the lacerations so frequently attendant upon this condition, the agent of infection being the examining finger of the accoucheur. Anæmia further favored septicæmia. In the treatment, the bipolar method of version introduced by Braxton Hicks was advocated as the best means of fulfilling all the theoretical indications. Zweifel's method of avoiding perforation of the placenta in central implantation was especially commended. The problem of the future should be to diminish the terrible sacrifice of the child. Zweifel's method might help, as well as improvements in antiseptic procedures, enabling us to use the vaginal tampon and rupture the membranes without perforation of the placenta.

The questions raised by Dr. Harrison were as follows: 1. In cases of placenta prævia, what anatomical and physiological facts explain the hæmorrhage occurring during pregnancy, and why is hæmorrhage unavoidable during miscarriage or labor? This question was discussed by Dr. C. C. Frederick and Dr. Isaac E. Taylor. The former did not think hæmorrhage was absolutely unavoidable.

Dr. Taylor said it had been shown by the anatomists that the body of the uterus and cervix were distinct, and he had demonstrated by the touch during the progress of pregnancy and labor, and by sight during labor-pains, that the cervix did not become coalescent or one with the body, but remained distinct, expanding and lengthening during delivery, while the body contracted and accomplished delivery. These views, which he had entertained as long ago as 1852, and expressed in a paper at the Academy of Medicine in 1862, had not been generally adopted, but had been revived by Hofmeier at the Obstetrical and Gynæcological Society of Berlin in 1884. The cervix was not physiologically adapted for the implantation of the placenta, the proper habitat of which was the body of the uterus; and it made no difference at what part of the body the placenta was attached, if it was over the internal os that orifice would remain sealed until labor commenced, whether at an early period or not. The hæmorrhage which took place in placenta prævia occurred during relaxation, not during contraction of the uterus.

2. In this anomaly, what is the source of the hæmorrhage, and what is the mechanism of its arrest? Dr. Darwin Colvin and Dr. S. B. Wylie McLeod discussed these questions. Dr. Colvin said he had no very definite views of his own of the source of the hæmorrhage, and would not occupy time in quoting those of others. The arrest of it should be by bringing on labor, which he strongly advocated in order that the mother's life might be made safe.

Dr. McLeod thought the source of the hæmorrhage might be either of those generally considered—the placenta, the uterine sinuses, or branches of the uterine artery or vein, or both, or all combined. As to the mechanism of its arrest, that of Simpson was to cut off the supply of blood to the placenta from the uterus by making the partial separation complete; this would also cause contraction and closure of the uterine sinuses. The tampon only temporarily delayed bleeding. There were other ways of stopping hæmorrhage here, as of stopping other forms.

3. If placenta prævia is diagnosticated during pregnancy, is the induction of premature labor indicated? Dr. W. T. Lusk discussed this question. The physician should not leave his patient until her safety was secured. If he found the cervix soft and dilated, the patient should be anæsthetized, the hand introduced, the membranes ruptured, and one inferior extremity brought down; in this way the hæmorrhage would be promptly controlled. The subsequent expulsion of the child should be left to nature. The finger, if possible, should be pushed between the uterus and the placenta, or, if not possible, through the placenta, in extracting the extremity. Of course, version was attended by serious loss of infantile life, but statistics showed that, with procrastination and the tampon, two out of three died, and more than half of those born living died within the first ten days. If pregnancy had advanced beyond the seventh month we should as a rule proceed to deliver, for the next hæmorrhage might result in the death of mother and child; if the child was not yet viable, the hæmorrhage usually led to abortion, and the treatment of it was like that of other cases of abortion.

4. During labor, in cases of placenta prævia, what mode of treatment best subserves the interests of the mother and the child respectively? Is that plan of treatment which best conduces to the preservation of the mother's life incompatible to a certain degree with the child's interest? Dr. R. L. Banta and Dr. John Shrady discussed this question. Dr. Banta favored Braxton Hicks's method of version. During the last ten years eleven cases had come under his notice; seven were treated by the older method, with the death of two mothers from septicæmia; the other women, treated by version, lived.

Dr. Shrady presented certain points for future study: 1. The fœtal mortality of placenta prævia being somewhat in excess of the maternal, the efforts of the accoucheur should be directed to the safety of the former. 2. In a given number of cases of cervico-lateral attachment, hæmorrhage might cease spontaneously or be arrested by Barnes's method of digital detachment. 3. Labor-pains induced by the escape of the liquor amnii might be severe enough to end in delivery with safety to both mother and child. 4. Dilatability of the cervix uteri was a *sine qua non* for any procedure. 5. To diminish the chances of mortality for a viable child, version should be considered as an early expedient. 6. Version under proper restrictions was not of necessity dangerous to the mother, while delay might utterly destroy the chances of the child. Delivery with the forceps was often a choice between expedients. 7. What best promoted the interests of the fœtus also promoted those of the mother.

5. After childbirth, in placenta prævia, what therapeutical measures will most certainly guard against the dangers of hæmorrhage and septic infection? Dr. John G. Orton and Dr. William H. Robb discussed this question. Dr. Orton said that,

if restricted to either ergot or friction over the nipples to arrest uterine hæmorrhage, he would choose the latter. As to septic infection, it should be avoided by cleanliness, washing out all clots, and well-known precautions.

Dr. Robb would lower the head, seek to secure contraction of the uterus, and give a hypodermic injection of ergot, in order to arrest hæmorrhage. In a few cases he had obtained good effects from nux vomica after administering ergot. If necessary, he would throw hot carbolized water into the uterus. The faradaic current had enabled him to maintain the uterine contraction. Antisepsis should be observed in all procedures.

A Case of Acute Mania following a Brief Attack of Articular Rheumatism.—Dr. James C. Hannan gave the history of the case, which was especially interesting from a diagnostic point of view. The autopsy had been made by Dr. Seymour, who had not, he thought, found sufficient lesions in the brain to account for the maniacal symptoms. The patient, besides having rheumatism, was anæmic.

A Case of Intrarectal Larvæ, with Gastritis, in an Infant.—Dr. Charles S. Allen reported the case. The dejections contained something which resembled under the microscope the larvæ of the blow-fly, which he was disposed to think had been ingested with the food.

Book Notices.

De la tuberculose nasale. Par le Dr. A. Cartaz, ancien interne des hôpitaux de Lyon et de Paris, etc. Paris: A. Delahaye et E. Lecrosnier, 1887. Pp. 5 to 23.

In this well-written monograph the author enters a plea for the more careful study of nasal tuberculosis, and lays stress on the fact that correct data can only be obtained by the aid of the microscope. A review of the literature of nasal tuberculosis, with a citation of cases, is given. While the author inclines to the belief that nasal tuberculosis is secondary to the pulmonary lesion, he deprecates the hasty diagnosis of the disease in the nose, in subjects where well-marked pulmonary deposits exist, unless the facts are fully established by the presence of the characteristic bacillus. Attention is called to the error of frequently confounding syphilis and lupus with tuberculosis. The author's task has not been a light one, as his subject has not received that attention on the part of rhinologists which it deserves, and, if for no other reason than that, Dr. Cartaz's work will stimulate more careful research, and should be welcomed.

BOOKS AND PAMPHLETS RECEIVED.

Holden's Human Osteology, comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone, and its Development. Edited by Charles Stewart, Conservator of the Museum of the Royal College of Surgeons of England, etc., and R. W. Reid, M. D., F. R. C. S., Lecturer on Anatomy, Medical School of St. Thomas's Hospital, etc. Seventh Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. ix–356. [Price, $6.]

Lectures on the Diagnosis of the Brain, delivered at University College Hospital. By W. R. Gowers, M. D., F. R. S., Professor of Clinical Medicine in University College, etc. Second Edition. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vii–254. [Price, $2.]

On the Animal Alkaloids. The Ptomaines, Leucomaines, and Extractives in their Pathological Relations. Being a short Summary of Recent Researches as to the Origin of some Diseases by or through the Physiological Processes going on during Life. By Sir William Aitken, Knt., M. D., F. R. S., Professor of Pathology in the Army Medical School. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi–61. [Price, $1.]

Some Observations upon Pelvic Cellulitis. Read before the Medical Association of Georgia, April 22, 1887. By Virgil O. Hardon, M. D., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Atlanta, Ga. [Reprinted from the "Atlanta Medical and Surgical Journal."]

The Urine. Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Illustrated Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 43. [Price, 50 cents.]

Nasal Polypus, with Neuralgia, Hay Fever, and Asthma, in Relation to Ethmoiditis. By Edward Woakes, M. D., Lond., Senior Aural Surgeon and Lecturer on Diseases of the Ear at the London Hospital, etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xii–140. [Price, $1.25.]

Four Months among the Surgeons of Europe. By N. Senn, M. D., Ph. D., of Milwaukee, Wis. Being a series of Letters to Dr. Chr. Fenger. [Reprinted from the "Journal of the American Medical Association."]

The Treatment of Pulmonary Consumption, with a Report of Forty Cases. By Thomas J. Mays, M. D., of Philadelphia.

Congenital Hydrocephalus. A Case in Practice. By G. T. Bartlett, M. D. [Read before the Southeast Missouri Medical Association, at Marble Hill, November 1, 1887.]

Surgical Clinic, St. Louis College of Physicians and Surgeons, service of Professor A. C. Bernays. Cases operated on during the First Month of the Winter Session, 1887–'88.

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

The Administration of Anæsthetics.—Hewitt presents some very pertinent suggestions ("Practitioner," August, 1887) regarding the choice and administration of anæsthetics. While he admits ether to be ordinarily the better, he considers chloroform preferable in cases of patients suffering from some cardiac or pulmonary affection in whom the symptoms of pulmonary derangement preponderate, and in coarse, fat, flabby persons, in whom the respiration is frequently chiefly diaphragmatic, on account of the known tendency of ether to cause paralysis of the respiratory centers. Where capillary hyperæmia and venous engorgement are likely to constitute a serious difficulty or danger he considers that chloroform should be employed. The danger of inducing general anæsthesia in patients who are subject to obstructive dyspnœa is discussed at some length, but no means of avoiding this danger in cases where operation is necessary is suggested. His explanation of this danger is that while awake these patients call into action certain nervous mechanisms controlling muscles not employed in normal respiration to assist in overcoming the obstruction; that these extraordinary or vicarious centers fall victims to the anæsthetic in their usual sequence, leaving the entire burden of respiration to fall upon the higher centers, which have already proved unequal to the task. The blood becomes increasingly more and more venous until finally death may result from asphyxia. Artificial respiration may revive the patient. An important point is made regarding the administration of a hypodermatic injection of morphine before inducing general anæsthesia, as is quite frequently done, especially in cerebral surgery, on account of the resulting diminished vascularity of the brain. But it should be borne in mind that morphine has a very sedative influence upon the respiratory centers, and that in susceptible patients, or in those with enfeebled or embarrassed respiration, its action, combined with that of the anæsthetic, may produce alarming symptoms. The greater susceptibility of patients suffering from cerebral disease should also be remembered, and the morphine should be omitted if there is any tendency to coma.

Relief of Tympanites by Puncture of the Abdomen.—This operation, which is frequently performed by veterinary surgeons on the lower animals, has seldom been done on the human subject, although it seems to have usually been successful. Dr. J. W. Ogle has collated in the "Lancet" most of the literature on the subject from the earliest times to the present, and compared the opinions of the gentlemen who have performed the operation, showing clearly its value and safety. In extreme flatulent distension the pressure upon the diaphragm and the sympathetic nerves produces the effect of paralysis of the diaphragm, limiting the expansion of the chest cavity, and the exchange of respiratory gases in the blood, while it compresses the liver and interferes with the action of the heart. The dyspnœa and interruption of the circulation thus produced will end life in a short time if not relieved. In such cases, after ordinary means of relief have failed, it is recommended to plunge a fine trocar and cannula into the most distended portion of the abdomen and allow the gas to escape. This is always followed by an immediate relief of the symptoms, sometimes temporary but often permanent. If the relief is only temporary, the operation may be repeated a number of times. At times the gas seems to exist in compartments, as if separated by sharp bends and turns of the intestine. In these cases several punctures may be needed. A number of cases of obstinate constipation, dependent probably on paresis of the muscular wall of the intestine from overdistension, are reported to have been cured by the removal of gas in this manner. Possibly relief may be obtained in the same way in cases of volvulus. The chief danger to be apprehended is that of peritonitis, but this appears to be very slight. In a few cases fæcal matter was found in the peritoneal cavity, but upon investigation it seemed that the escape had been post-mortem rather than ante-mortem. The operation is certainly indicated in all such cases, at least as a *dernier ressort*, but it must not be delayed until irreparable mischief has been effected by the prolonged pressure.

Cystitis.—Ultzmann recommends ("Internationale klin. Rundschau"; "Ctrlbl. f. Chir.," 1887, No. 30) in cases of irritable bladders to wash them out with a solution in lukewarm water of tincture of opium, cocaine $\frac{1}{4}$ per cent., resorcin $\frac{1}{2}$ per cent., and carbolic acid $\frac{1}{6}$ per cent. In case of ammoniacal decomposition of the urine he uses a $\frac{1}{10}$-per-cent. solution of permanganate of potassium, or a solution of three drops of nitrite of amyl in 500 grammes of water. In phosphaturia, a $\frac{1}{10}$-per-cent. solution of salicylic acid is recommended.

Resection of the Knee Joint.—With a view to preserving a movable joint after resection of the knee, Tiliny proposes an operation by which the ligaments about the joint, which are usually sacrificed, may be saved ("St. Petersburger med. Wochenschrift"). Up to the time of writing no practical application of the method had been made. He proposes a crescentic incision from one condyle of the femur to the other, the convexity passing a little below the tuberosity of the tibia, instead of the middle of the patellar ligament, as proposed by Textor. The tuberosity of the tibia, having the patellar ligament attached, is to be removed with a broad chisel, directed upward and backward, the periosteum being first divided, and at least 1 cm. in thickness of the bone being removed. In the same way the epicondyles of the femur, with their attachments, including the lateral ligaments, are to be chiseled off. The crucial ligaments being then divided in the usual manner, the joint will be thoroughly laid open for the removal of the diseased portions of the joint and bones. After the diseased parts have been removed, the tuberosity and the epicondyles, still having their several ligaments attached, are to be replaced in their normal situations on the tibia and femur, and secured in position with ivory pegs. Three weeks after the operation, active and passive motion of the joint may be commenced, together with electrization of the muscles. In cases of joint disease with disorganization of the ligaments, this method is evidently impracticable.

Resection of the Prolapsed Rectum.—Gorski reports ("Przeglad lekarski," 1887, Nos. 8 and 9; "Ctrlbl. f. Chir.," No. 28) that Mikulicz performs the following operation in cases of prolapse of the rectum in which replacement is useless or impossible, or in which symptoms of incarceration demand interference: After thorough disinfection of the parts, he makes, under continuous irrigation, an oblique incision, 3 cm. broad, just below the anus through the entire thickness of the outer portion of the intestine, and secures the cut edge of peritonæum to the peritonæum covering the inner portion with Lembert's suture. In this manner the entire prolapsed portion is encircled, and then removed by cutting through the inner part below the peritoneal sutures. The edges of mucous membrane are then united with interrupted silk sutures, and the stump is returned above the sphincter. Good results are said to have been obtained by Mikuliez, Billroth, and Nicoladoni.

Photoxylin.—Von Wahl ("St. Petersburger med. Wochenschrift," 1887, No. 20; "Ctrlbl. f. Chir.," 1887, No. 31) highly recommends a five-per-cent. solution of photoxylin, in equal parts of ether and alcohol, as a substitute for collodion in surgical operations. The advantages he alleges are its much more lasting attachment to the skin, which is affected neither by contact with fluids nor by washing, its impenetrability to fluids, and the even compression of the tissues effected by it. He maintains that by means of its use voluminous dressings may be dispensed with in small operations, in plastic operations on the face, in operations in the neighborhood of the male sexual organs, and in children, where the soaking of a dressing with urine might endanger the healing of the wound. After the wound is closed with sutures, he places over it a thin layer of absorbent dressing soaked with the solution of photoxylin. This remains eight or ten days, and, by its even compression, renders a drainage-tube unnecessary.

Krysinki ("Archiv f. path. Anat. u. Physiol. u. f. klin. Med.," cviii, 1) also speaks in high terms of photoxylin. He calls attention to its great transparency, which makes it useful in microscopical preparations, for which purpose he has employed it during the last ten months. For surgical purposes he recommends it wherever one is accustomed to use ordinary or flexible collodion. For histological purposes he uses two solutions—one "thin," of one half to one per cent., the other "thick," of five per cent.

Fatal Obstruction from a Biliary Calculus.—Audry ("Lyon médical") reports a case of fatal intestinal obstruction from a biliary calculus. A man, fifty years of age, came under his observation complaining of severe abdominal pains, constipation, and vomiting of mucus and bile. The pains and vomiting soon subsided, but the constipation remained. A month later the symptoms returned, and the patient soon presented the appearance of a person suffering from intestinal obstruction. There was little or no tympanites, and there was no pain on pressure of the abdomen. No hernia could be found. The patient gradually sank. At the autopsy a very large biliary calculus, formed of many small calculi agglutinated together, was found blocking up the large intestine.

Hare-lip.—Owen ("Lancet," Aug. 20, 1887) prefers the following operation for hare-lip: The mucous membrane is removed from the shorter piece of lip from the apex of the cleft almost to the angle of the mouth. An incision is then made on the opposite side through the entire thickness of the lip from the apex of the cleft downward, at an angle of about 45°, to a point nearly midway between the opposite nostril and the border of the lip, thus forming a thick, serviceable flap with which to fill the lower part of the cleft. The raw surfaces on the two portions of the lip are secured in apposition with fine silver wire, the mucous membrane is carefully adjusted with horse-hair sutures, and the integumental edges are united in the same manner. The lip is steadied by a piece of waterproof strapping, extending over it from one cheek to the other. To obviate the puckering at the inner end of the incision through the lip, which will otherwise happen, the incision is continued for a short distance in an upward and outward direction. The advantages alleged for this operation are that the line of union is thick and strong, and that the cicatrix is eventually as inconspicuous as it is possible for it to be.

Cutaneous Calculus.—The removal of a cutaneous calculus from the cheek of a woman, aged sixty-five years, is reported in the "Lancet," Aug. 27, 1887. It was irregular, mammillated, of about the size of a quarter of a cubic centimetre, weighed about five grains, and was composed of phosphate and oxalate of calcium and cholesterin. The possibility of its having been taken from a salivary duct or from a dental fistula is said to have been carefully negatived.

Femoral Aneurysm.—In the "Lancet" of Aug. 27, 1887, is a full description of the post-mortem examination of a femoral aneurysm eighteen months after it had been treated by ligature of the external iliac artery by Mr. Anderson. At the seat of ligature the external iliac artery formed a solid cord one tenth of an inch in diameter; above this point it was filled with a clot as high as the bifurcation of the common iliac, below it was filled with a clot as far as the aneurysmal sac. The aneurysm was pyriform, two inches long, and involved the whole circumference of the femoral to below the origin of the profunda. It was almost filled with coagulum, partly soft, reddish and friable, partly pale, firm, and laminated. In the lower and back part was an irregular cavity, occupied in part by a coil of decolorized fibrin extending into the superficial femoral. Into this cavity opened also the profunda, the internal circumflex, and a large muscular branch. The external circumflex joined the profunda just below the point where it left the sac. After the ligation of the external iliac the patient was operated on for popliteal aneurysm of the opposite side, and when he was allowed to get up, two months after the first operation, pulsation recurred in the femoral aneurysm and remained until his death. Complete consolidation would probably have caused gangrene, as the superficial and deep femorals could be reached by the principal collateral stream only by its passing through the fundus of the sac. The popliteal aneurysm was treated by digital compression of the common femoral, together with galvano-puncture. It was found at the examination to be filled with a friable clot without fibrinous laminæ, and appeared to have originally communicated with the main vessel by a rather small aperture. It is interesting to note that this patient finally succumbed to an aneurysm of the arch of the aorta.

Treatment of Tetanus with Morphine.—Dukes ("Lancet," Aug. 27, 1887) relates a case of tetanus resulting from extensive burns which grew steadily worse under the use of cannabis indica, potassium bromide, and chloral, until finally he commenced the subcutaneous injection of morphine. Under this treatment the sores healed, the tetanus disappeared, and the patient recovered. Each dose was regulated in size and frequency by the symptoms presented, and varied from one fourth to three fourths of a grain, the daily quantity varying between one fourth of a grain and six grains and a half. The duration of the treatment was five weeks. The distress of the patient was greatly relieved, but scarcely any sleep was produced, and at no time was there any contraction of the pupil. The constipation produced, however, was a great annoyance.

Miscellany.

The Ninth International Medical Congress and American Gynæcology.—In an introductory lecture delivered at the University of Edinburgh, on the 19th of October, Professor Alexander Russell Simpson spoke in the following kindly terms, as we find by the "British Medical Journal":

"Besides having the satisfaction of helping to bring about some agreement in our method of describing the mechanism of labor, I felt well rewarded for my close attendance on the Obstetric Section in hearing the President's (Dr. Miller's) interesting address, in which he gave a brief sketch of the more noteworthy obstetricians of America, beginning with Dr. Samuel Bard, the physician of George Washington; a paper by Dr. Braxton Hicks on the 'Contraction of the Uterus throughout Pregnancy'; one by Professor Cameron on the 'Influence of Leukæmia on Pregnancy'; another by M. Charpentier, of Paris, on 'Experimental Uræmia'; a most scholarly one by Professor Lusk on the 'Prognosis of the Cæsarean Section,' which was followed by papers from Sänger, of Leipsic, and Professor Wathen, of Louisville; and a prolonged debate on the Cæsarean operations, occupying a whole forenoon. Papers bearing on the puerperal fevers and septicæmia by Kucher, of New York; More Madden, of Dublin; Warrington Earle, of Chicago; Lowry Sibbet, of Carlisle, Pa.; and Dr. Emil Poussie, of Paris, raised a long discussion, in which M. Doléris, Dr. Graily Hewitt, of London; Professor Stewart, of Philadelphia; Dr. Lloyd Roberts, of Manchester; and many others took part. You may be sure the ever-engaging subject of the forceps was brought up, and also puerperal eclampsia, hæmorrhages, and other topics of obstetrical importance.

"In the Section of Gynæcology there was also great activity. Some of the subjects there treated of might as well and more fitly have been brought before the Obstetric Section—such as 'Ectopic Pregnancy,' 'The Treatment of Pregnancy complicated with Uterine Fibroma,' and some others; but there was abundance of purely gynæcological material. The venerable Dr. Dunlap had an interesting story to tell of the early struggles of the ovariotomists, and could relate how the editor of the journal to which he sent the record of his own first case returned his paper to him with the intimation that the account of such an unjustifiable operation was unfit for publication. Fibroid tumors were dealt with in various communications, as by Dr. Marcy, the President of the Section, on their pathology, and by Dr. Apostoli on their treatment by means of electricity, in the use of which he has led the van. August Martin advocated the vaginal extirpation of the cancerous uterus, in which he has had such large experience; and the other side of the question was sustained by Professor Reeves Jackson, of Chicago, a sagacious and experienced gynæcologist, and the medical companion of Mr. Clemens in the tour which you may have followed in 'The Innocents Abroad,' with much of the humor which the readers of Mark Twain enjoy. Of the shortening of the round ligaments Dr. W. L. Reid, of Glasgow, and others gave their experience. All these and others one would have liked to hear, but my regret at absence from their discussions was greatly lessened by the reflection that I was likely to meet most of the gynæcologists there gathered, and many others besides, at the meeting of the American Gynæcological Association, which was timed to be held in New York in the following week. This association, instituted in the centennial year mainly through the energy of Dr. Chadwick, of Boston, is a select society, which embraces in its membership the leading obstetricians and gynæcologists of the New World, and has now published eleven volumes of 'Transactions,' containing a large amount of valuable material, whose extent and importance help us to understand the necessity that has arisen for making three sections at an international congress for the consideration of subjects which could, a decade ago, comfortably be discussed in one.

"The New York meeting in the hall of the Academy of Medicine was presided over by Dr. Skene, of Brooklyn, with whose name you are, or soon will be, familiar, and the address of welcome was delivered by Dr. Fordyce Barker, whose name has for two generations been familiar in obstetrics. I was pleased, and I couldn't help expressing my delight in seconding a vote of thanks, moved by Professor Graily Hewitt, on the part of the strangers for the kindness we had received at the hands of our American *confrères*, to recognize in Dr. Skene a fellow-countryman, whose voice, after long years of residence in America, still retains a traceable Aberdonian accent. I was perhaps the more ready to diagnose it because I remembered that from that same county came three of the ablest obstetricians of the day, with whose voices my ears were well acquainted—namely, Dr. Matthews Duncan, Dr. Watt Black, and the late Dr. Angus Macdonald. As for Dr. Barker, I could not Scotsmanize him, but I noted that in the admirable portrait of him hanging on the wall of the Academy of Medicine among the other ex-presidents of the Academy, he was depicted wearing a purple hood, from which posterity might learn that for the great and good work he had done in midwifery he had been deemed worthy to receive the honorary degree of LL. D. from the University of Edinburgh.

"I have said that the 'Transactions of the American Gynæcological Association' give evidence of the vast amount of earnest and faithful work that is wrought in our department by our transatlantic confraternity. And I would add that the noble services they have rendered in the past are an inspiration and incentive to them and us to further achievement in the future. Have you ever thought how much obstetrics and gynæcology owe to America? We sometimes hear half-contemptuous reference to the scream of the American eagle. But in our section of medicine, at least, she has established the strongest claims to let her voice be heard."

An Office Thief.—Dr. Robert T. Morris, of 133 West Thirty-fourth Street, writes to us as follows: "An office thief is making a collection of hypodermic syringes in the city. He asks for a loan of the instrument for a physician who has an emergency case in the vicinity, and fails to return. He is rather tall and thin, with a dark moustache. He wears a broad-brimmed, soft black hat. His manner is courteous, and his hands are dirty. He is about thirty-five years of age. If any intended victim will hold him, I will take the trouble to prosecute the thief."

The Health of Boston.—During the week ending Saturday, November 12th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 16 cases and 6 deaths; scarlet fever, 68 cases and 10 deaths; typhoid fever, 14 cases and 4 deaths; measles, 5 cases and 1 death. There were also 31 deaths from consumption, 33 from pneumonia, 1 from whooping-cough, 16 from heart disease, 16 from bronchitis, and 5 from marasmus. The total number of deaths was 190, against 145 for the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 18th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending October 29th corresponded to an annual rate of 21·5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Leicester, viz., 13·1, and the highest in Preston, viz., 32·1 in a thousand. Small-pox caused 19 deaths in Sheffield, 1 in London, 1 in Birmingham, and 1 in Bristol.

London.—One thousand seven hundred and thirty-eight deaths were registered during the week ending October 29th, including 33 from measles, 60 from scarlet fever, 31 from diphtheria, 44 from whooping-cough, 1 from typhus, 16 from enteric fever, and 16 from diarrhœa and dysentery. There were 485 deaths from diseases of the respiratory organs. Different forms of violence caused 66 deaths, and 6 suicides were registered. The deaths from all causes corresponded to an annual rate of 21·5 in a thousand. In greater London 2,087 deaths were registered, corresponding to an annual rate of 20·1 in a thousand of the population. In the "outer ring" 10 deaths from diphtheria, 9 from scarlet fever, and 10 from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending October 29th in the sixteen principal town districts of Ireland was 25·9 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 9·6, and the highest in Wexford, viz., 47 in a thousand.

Dublin.—Two hundred and seventeen deaths were registered during the week ending October 29th, including 9 from measles, 4 from whooping-cough, 11 from scarlet fever, 7 from enteric fever, 10 from diarrhœa, and 1 from dysentery. Diseases of the respiratory organs caused 45 deaths. Two accidental deaths were registered, and in 31 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 32 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending October 29th corresponded to an annual rate of 22·2 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 15·1, and the highest in Perth, viz., 25·9 in a thousand. The aggregate number of deaths registered from all causes was 554, including 5 from measles, 19 from scarlet fever, 3 from diphtheria, 26 from whooping-cough, 6 from fever, and 11 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending October 22d corresponded to an annual rate of 19·5 in a thousand. The lowest rate was recorded in Rostock, viz., 10·4, and the highest in Münster, viz., 31·1. During the week ending October 15th the deaths registered corresponded to an annual rate of 19·9.

Buenos Ayres.—One thousand and four deaths were registered during the month of August, 1887, including 84 from small-pox, 22 from enteric fever, 3 from scarlet fever, and 58 from diphtheria.

Cagliari.—The United States consul at Florence, in his dispatch dated October 24, 1887, states that he has "received from the consular agent at Cagliari the following report, dated October 21, 1887: 'The public health has been officially declared satisfactory, and that no more cases of suspicious diseases have occurred.'"

Palermo.—The United States consul, in his dispatch dated October 25th, states that "no cases or deaths occurred from cholera during the week ending October 23d. However, yesterday's official bulletin, sent to this office early this morning, reports 3 cases, followed by 2 deaths."

Denmark.—The United States consul at Copenhagen, under date of October 21, 1887, transmitted a copy of a quarantine order issued by the Danish Government, October 14, 1887:

"In accordance with this order, the quarantine is to be established with regard to all ships coming from Sardinia, and the importation of rags, hair, hides, etc., from the island is forbidden. Quarantine is hereafter to be observed with regard to the following places: All ports of Sicily, Italian continental ports on the coast between Cape Santa Maria di Leuca and Cape Miseno, all ports of Malta, and all ports of Sardinia. The provisions of section 2, paragraph 1, of the law of July 2, 1880, are hereafter to be observed with regard to the following places: The ports of the East Indies, Tonkin, and Cochin China, Italian ports on the coast between Cape Miseno and the French boundary, Trieste, all ports of Egypt, Red Sea ports, Rio de Janeiro, and Havana. The prohibition of the importation of rags, hair, hides, etc., remains in force with regard to the following places: All ports of the East Indies, Tonkin, Cochin China, Chili, Sicily, Paraguay and Uruguay, Argentine Republic, and Austrian Hungary, the Italian ports between Cape Santa Maria di Leuca and Cape Miseno, all ports of Malta, and all ports of Sardinia. The prohibition of the importation of rags, used clothing, etc., remains in force with regard to Rio de Janeiro and Havana, and special attention is to be paid to the cleansing of all effects of travelers coming from these two places."

Havana.—Three deaths from yellow fever and 50 from small-pox are reported for the week ending November 5th.

Santiago de Cuba.—The sanitary inspector, under date of November 5th, reports that "the town is free from epidemic diseases, small-pox and scarlet fever having totally disappeared. A few cases of yellow fever are still under treatment at the military hospital, outside the city, and only 3 deaths have resulted from it this week."

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	October 22.	2,260,045	895	..	....	8	....	9	....	31
Paris	October 29.	2,260,045	862	..	...	6	....	11	2	30
Glasgow	October 29.	545,678	245	..	....	....	....	4	9	2
Warsaw	October 15.	439,174	252	..	....	15	....	....	13	11
Warsaw	October 22.	439,174	245	..	....	22	....	....	12	4
Calcutta	Septemb'r 24.	433,219	180	8	....	....	....	....	....	1
Calcutta	October 1.	433,219	206	15	....	....	....	....	....	....
Amsterdam	October 22.	378,686	136	..	....	....	....	....	1	4
Amsterdam	October 29.	378,686	135	..	....	....	....	....	....	1
Rio de Janeiro	October 1.	300,000	282	.	1	110	....	2	....	3
Copenhagen	October 18.	290,000	130	..	....	....	....	....	3	3
Copenhagen	October 25.	290,000	148	..	....	....	....	....	3	1
Munich	October 22.	269,000	152	..	....	....	....	....	....	13
Palermo	October 23.	250,000	97	..	....	....	....	1	1	....
Palermo	October 30.	250,000	94	2	....	....	....	1	....	2
Edinburgh	October 15.	258,629	80	..	....	....	....	2	1	....
Belfast	October 29.	224,122	109	..	....	....	....	3	3	2
Rotterdam	October 29.	190,545	70	..	....	....	....	1	....	....
Genoa	October 22.	179,558	89	..	....	6	2	....	....	....
Genoa	October 29.	179,558	87	..	....	13	1	....	....	....
Leipsic	October 29.	170,000	56	..	....	....	....	....	....	1
Toronto	November 5.	130,000	31	..	....	....	....	1	....	....
Havre	October 22.	112,074	59	..	....	....	....	7	....	....
Havre	October 29.	112,074	67	..	....	....	....	7	....	....
Reims	October 29.	97,903	39	..	....	....	....	2	....	1
Mayence	October 22.	65,701	29	..	....	....	2	....	....	....
Callao	October 15.	34,000	....	..	....	....	....	1	....	....
Guayaquil	October 13.	30,000	45	..	....	6	....	1	....	....
Guayaquil	October 20.	30,000	77	..	....	15	....	....	....	....
Guayaquil	October 27.	30,000	69	..	....	21	...	....	....	....
Gibraltar	October 23.	23,631	8	..	....	1	...	1	....	....

United States.

Philadelphia, Pa.—The State Board of Health of Pennsylvania passed a resolution, under date of November 9, 1887, that, in their judgment, owing to the present situation in regard to the continuance of cholera along the shores of the Mediterranean and its transportation to the port of New York, immigrants sailing from infected ports, or near centers of infection, should not be allowed to land in this country until competent authorities have declared that the danger of infection has ceased in those ports or places.

Tampa, Fla.—Yellow Fever.—The quarantine inspector, Dr. J. Y. Porter, reports, for the week ended the 16th instant, 25 new cases and 6 deaths, making total cases approximately to date, 370; deaths, 66. Number in hospital under treatment, 12.

A Chinese Remedy for Croup.—At a recent entomological exposition, General Tcheng-ki Tong, according to the "Progrès médical," gave an account of the uses to which certain insects are put in China. Among other things, he spoke of the treatment of croup with spiders. Seven large webs, two of which at least must contain living spiders, are made into a sort of paste, to which about forty grains of alum, previously dissolved, are added. The mixture is reduced to ashes, which are allowed to cool in the patient's throat, a procedure which is said to give relief at once.

In Search of Strophanthus Tablets.—"The following story," says the "British and Colonial Druggist," "is perfectly true, and is too good to be lost: A gentleman went into a chemist's shop late one evening for strophanthus tablets. He was politely told, 'We do not keep them, but can get them for you early in the morning.' He replied, 'I will try to procure them, and if I fail I will call, and you shall get them for me in the morning.' He returned in the course of an hour, and thus related his experience: Shop No. 1: 'Don't keep them, but can get them'; No. 2 threw the paper at me and said, 'I do not keep such rubbish'; No. 3 opened about forty drawers and said, 'I am very sorry, there has been a good demand for these lately, and we have sold out, etc.,'; No. 4 went behind a screen, examined the paper closely, and was seen beckoning vigorously to some one to come to his assistance; a consultation ensued, he gravely came from behind the screen, and said, more in sorrow than in anger, 'I am very sorry indeed, sir, but we do not keep this kind of SOAP!!'"

ANSWERS TO CORRESPONDENTS.

No. 92.—Different micro-organisms require various degrees of heat for their destruction. Practically, however, for purposes of disinfection, the temperature you mention (140° C.) would probably prove efficient. But exposure of a cutting instrument to that temperature "for three hours," as you suggest, would, we think, injure the temper. As to its injuring nickel or silver plating, we think much would depend on the quality of the plating. It is our opinion, however, that cutting instruments ought not to be plated. There are several reasons why exposure to dry heat is not "preferable to all other methods in rendering instruments aseptic." In the first place, there is the inconvenience of regulating the degree of heat; but, worse than that, dry heat of any degree compatible with the integrity of the instrument does not necessarily destroy or remove the organic matter that may adhere to the instrument—it may render it aseptic for the time being, but there it remains, ready to become septic again under favorable conditions.

No. 93.—The literary qualifications required of candidates for appointment in the medical corps of the army are: the ability to write a short satisfactory essay, which may be either autobiographical or on some professional subject—to be indicated by the board of examiners; a good common-school education, as shown by an examination particularly in English grammar, arithmetic, and the history and geography of the United States; also a good knowledge of chemistry and natural philosophy, English literature, Latin, and general history, ancient and modern. An examining board is appointed when there are vacancies to be filled, and usually sits in one of the large cities. A candidate's first step is to apply to the Secretary of War for an invitation to appear before such a board, of the place and time of whose sitting he will then be informed. According to our data, the vacancies average seven or eight annually. A newly appointed assistant surgeon receives $1,600 per annum (payable in monthly parts), with quarters, and mileage (8 cents a mile) when traveling under orders.

No. 94.—All things considered, we think Gray's is the best textbook of anatomy for medical students.

No. 95.—The usual charges for type-writer copying in New York are 5 cents a "folio" (10 lines) for one copy, 8 cents for two copies, and 10 cents for three. A discount is usually made on large orders, but an additional charge is made if the original manuscript is very difficult to read, or if it contains much tabular or other intricate matter. We can not publicly recommend individual operators, but, if you wish, we will inform you by mail of an office in which excellent work has been done for us.

No. 96. The eighth volume of the "Index-Catalogue," the last one thus far published, carries the work to the heading "Medicine (Naval)."

No. 97. Whether or not you can collect a fee from a patient who failed to keep an office appointment depends, we presume, on the character of the appointment. If the arrangement was simply that the patient should call during your office-hours on a certain day, we doubt if you could recover; if, however, it was understood that you reserved a certain length of time for him, and if you can show that by so doing you lost opportunities with other patients, or were detained from your professional work, the case, we think, would be decided in your favor.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, December 3, 1887.

Original Communications.

THE TREATMENT OF URETHRAL INFLAMMATION IN THE MALE.*

By H. W. RAND, M. D.,

CLINICAL PROFESSOR OF DISEASES OF THE GENITO-URINARY ORGANS, AND ATTENDING SURGEON, LONG ISLAND COLLEGE HOSPITAL.

It is not the object of this paper to introduce any new line of treatment for urethral inflammation, as is so much the present fashion, but rather to give some personal experience in its management by methods already before the profession.

To read the reports of cases treated by new methods, and note the patients' rapid recovery, one would think that perfection was at last almost reached, and that all the older lines of treatment for this disease would soon be looked upon only as curiosities in therapeutics. True, some of the older modes of dealing with urethral inflammation should be, and some of them have already been, very properly abolished; but the same may be said of some of the more modern.

Why an apparently conscientious physician can report almost invariable success with a mode of treatment that another, who is an equally good and careful observer, fails to secure anything like the same results with, can, to the writer, only be explained on the ground that the first report was founded upon a too limited number of observations, and that the physician was fortunate enough to have a majority of those cases which get well quickly by attention simply to urethral hygiene—in other words, that the patients made, in many of such cases, a prompt recovery in spite of the local treatment adopted, and not because of it.

The statement of Cheyne, that iodoform in suppositories and eucalyptus-oil by injection will cure gonorrhœa in from seven to ten days, has not been verified by the experience of others. Pasqua cures gonorrhœa in eight to ten days with injections of chloral, one gramme in eighty grammes of rose-water; and Castellan alleges speedy recoveries from the use of a one-per-cent. solution of bicarbonate of sodium. But the average surgeon does not meet with so much success.

Perhaps the most remarkable statement of any that I have yet seen is that of Tinsley, who asserts that he can cure acute gonorrhœa in from twenty-four to forty-eight hours by using, four or five times daily, an injection of sulphate of morphine, ʒ j, in rose-water, ℥ j. I was led to try this injection in one case, and kept the patient in bed to watch its effect; but by the end of the second day he was worse than before treatment, and I desisted. But, without wasting more time on things that are not always what they seem to be in the eyes of their advocates, let me proceed with the task proposed in the beginning of this paper.

If we admit the existence of a gonococcus as the contagium of gonorrhœa, we must, contrary to the teaching of Bumstead and others, admit the existence of two distinct varieties of urethral inflammation; for, while most observers profess to have found the gonococcus in the pus in cases due to contagion, they have failed to find it in the discharge in cases of urethritis that were due to instrumentation or contact with simple irritants. Whether future observations confirm, or not, the assumption that there is a specific form of urethral inflammation of which the germ is the gonococcus, in addition to a simple variety in which such germ plays no part, the fact remains that, clinically, we meet with severe and with mild cases, dependent upon different causes, and it is of importance to discover the nature of the cause in each, so far as we can, in order to direct our treatment intelligently.

We should not only endeavor to learn the nature of the exciting cause, and the previous history of the case, but should inquire into the general health of our patient. Scrofula, rheumatism, and gout are generally accepted as predisposing causes, and are believed to influence the duration of the disease materially. Yet complete and prompt recovery occurs so frequently in this class of patients when the diathesis, whichever it may be, is well marked, and cases are often so prolonged in those apparently in perfect health and free from such diatheses, that it would seem as if their influence had been overrated.

Where, however, the patient's condition is such that his urine is over-acid, or loaded with urates, or with any other excretion in excess that may act as an irritant to the urethra during micturition, there we have ample cause for a protracted gonorrhœa, unless such abnormal condition is discovered and removed. For this reason occasional examinations of the urine should be made during the course of every urethral inflammation.

As a general thing physicians are too lax in laying down rules for their patients' guidance. An injection and some copaiba, with perhaps an alkali, are too frequently prescribed as routine treatment, but little being said on the subject of diet, rest, and freedom from sexual excitement. The avoidance of alcoholic drinks should be insisted upon, not only during the acute stage, but, in the majority of cases, throughout the course of the disease, and for some time after apparent cure. Coffee and strong tea, cocoa and lemon-juice, should be prohibited. Although lemonade is allowed by so high an authority as Zeissl, it is harmful, as I have often proved to the patient's satisfaction as well as my own. Even the ingestion of strawberries has often caused a return of smarting on urination, so they had best be avoided. Asparagus, celery, pickles, and condiments are on the list of forbidden things. During the acute stage, meat, which, besides its stimulating effect on the sexual organs, tends to increase the acidity of the urine, should be left out of the patient's diet, and farinaceous food substituted, especially in those of full habit. Milk, when it agrees, is an excellent diuretic, and a good substitute for meat.

Having taken the patient's history, given him explicit directions about his diet, urged him to take as much rest as possible, and to avoid everything tending to produce sexual excitement, we should next consider what medicinal treatment is indicated. This will depend not only upon the stage and severity of the disease, but upon the constitution and temperament of the patient as well. The line of treatment that succeeds best with the healthy, vigorous man, with the sexual instinct strongly developed, is not the best for the man who is his physical and mental opposite. In the first case, salines and bromides are generally highly useful; in the second, these remedies are less productive of good, and oftentimes decidedly harmful.

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* Read before the Medical Society of the County of Kings, September 20, 1887.

Where we have to deal with an acute case, the treatment for the first few days should be, in a measure, antiphlogistic. The extent to which this should be carried depends on the severity of the symptoms and the constitution of the patient. Enough of some saline should be given to produce at least two free evacuations daily. For this purpose I prefer sulphate of magnesium or Hunyadi water. The more active cathartics, as advised by some, do not, as a rule, seem to possess any advantages over salines. And it is well to diminish even the saline as soon as the more acute symptoms begin to yield, yet it may be continued in a smaller dose throughout the acute stage with benefit to such patients as are not weak or anæmic. Constipation should always be prevented during the entire course of the disease by some laxative appropriate to the case. While gentle purgation in strong, healthy subjects is beneficial for the first few days, where the symptoms are marked, it should on no account be continued beyond the inflammatory stage, and in debilitated subjects, as a rule, anything like purgation should be avoided from the first.

Opinion is divided as to the use of diuretics in this disease. Ricord taught that the more urine the patient passed the more he "fatigued his urethra" and predisposed it to inflammation, and yet he admits that the greater the amount of urine, the less the pain caused during its expulsion. He therefore chooses the least of two evils, and seeks to render the urine as "aqueous" as possible. Zeissl condemns diuretics as injurious, while Van Buren and Keyes, Bumstead and Taylor, and others, advise their use in all cases.

It has seemed to me that the more active diuretics are entirely uncalled for, and that in the majority of cases an abundance of pure water, such as the Hygeia or Bethesda, and perhaps milk or buttermilk, produce all the diuretic effect required. When, however, the urine is over-acid in spite of the administration of such diluents, a mild alkali, such as citrate of potassium, does good when given in sufficient doses to nearly or quite neutralize the urine. The fact that an alkali accomplishes more, and is less apt to disturb the digestive processes, when given two or three hours after meals, is familiar to every physician, but is often not insisted upon by him, and patients take it at their convenience. Any alkali, however, does harm rather than good if it disturbs digestion, as is often the case. A mineral acid will sometimes accomplish more than an alkali in patients with atonic dyspepsia; for if, as a result of imperfect digestion, the urine contains an excess of uric acid, oxalate of calcium, or any deposit that renders it irritating to the urethra, the acid, in certain of these cases, relieves this condition by improving digestion and aiding assimilation. In short, I believe the habit of ordering an alkali for every case of urethral inflammation, as is advised by many good authorities, is not only injudicious, but, in some cases at least, harmful.

Hyoscyamus is usually recommended when smarting on urination is severe. In my experience, small doses of oil of sandal-wood relieve this symptom more than any other single remedy. I frequently combine ten minims of this oil with two or three grains of extract of hyoscyamus, and give this quantity two hours after each meal. The effect is more decided than when either remedy is given alone. As the inflammatory symptoms subside the dose of the oil can be increased to twenty or thirty minims, and the hyoscyamus omitted.

In some erotic individuals who are tormented with painful erections, full doses of bromide of potassium or sodium fulfill the double indication of alkali and sedative. I generally, however, give the bromide only at bedtime, preferring the above-mentioned treatment during the day.

Of all the internal remedies advised for gonorrhœa, I prefer the oil of sandal-wood. It is less apt to disagree with the patient than either copaiba or cubebs, and can be given earlier in the course of the disease. In small doses it is beneficial even in the most acute cases and while the inflammatory symptoms are on the increase. It is especially useful in cases complicated with cystitis. It seems to be most effective when alkalies are withheld during its administration, and when only a moderate amount of fluid is taken by the patient. The physician should always insist upon the patient taking his dose from an hour and a half to two hours after meals, and not at irregular intervals. It is said that this oil is so apt to be adulterated that it is unreliable, and I find there is considerable difference in the effect produced by that which comes from different sources. I have been led to depend either upon that freshly put up by a reliable druggist, or upon the capsules of one or two firms only from among the number represented in the market.

My experience with copaiba and cubebs does not probably differ from that of others. I give them much less frequently in private practice than I do oil of sandal-wood; but, when a case is prolonged, and the oil seems to have lost its effect, I resort to them where they are readily tolerated. It is, however, harmful to push any of these remedies, as is too often done, when after reasonable trial, alone and in combination, they are found to disagree with and disgust the patient. In dyspeptic subjects it is unwise to try copaiba at all, for it will almost always make matters worse. Some surgeons have discarded these drugs entirely, but, while their indiscriminate use is to be condemned, it is certain that they are, in many cases, valuable adjuvants to other treatment, when intelligently handled.

When even the oil of sandal-wood is not tolerated, the tincture of *Cannabis americana* can be given, and will be found a useful remedy. When the acute symptoms have subsided and the discharge has become muco-purulent or mucoid in character, the non-alcoholic fluid extract of hydrastis is of value, especially in debilitated patients with poor appetite and impaired digestion. It is preferable to the tincture of chloride of iron in many such cases as are said to require iron. I have tried various other drugs in this disease, such as digitalis, salicylate of sodium, manzanita, kava-kava, etc., and have discarded them all except kava-kava, which, in the form of a solid extract, is at times a useful remedy in subacute cases.

In milder cases of urethritis the same general directions as to diet, rest, laxatives, and the avoidance of sexual excitement should be enforced for the first few days, until it is certain that the disease is to prove mild, when we may be less strict as to rest, laxatives may be uncalled for, and the patient may be allowed a more liberal diet. It is well in all cases for the patient to avoid alcoholic drinks and sexual excitement for at least two weeks after recovery.

Local Treatment.—In cases seen within the first few days, while the disease is confined to the anterior part of the urethra and the discharge is yet thin and chiefly mucous, it would seem as if injections of such solutions as are said to be capable of destroying the gonococcus would constitute the all-important treatment. I refer to such weak solutions as are supposed to be devoid of danger to the patient and yet destructive to the gonococcus.

Hitherto such treatment has not been so successful in my hands as its advocates would lead one to expect. Often, while the discharge is chiefly mucous, an injection of a weak solution of bichloride of mercury will apparently produce marked benefit, but I have been disappointed so often with this treatment, and have seen, in many cases, the symptoms increase so rapidly while I was carefully following up such injections, that I have been led to doubt the reputed virtues of the bichloride. We are very often at a loss to determine, especially during the first few days, whether our patient has been actually exposed to contagion and is in the initial stage of a gonorrhœa, or has only lighted up a mild inflammation by drink and sexual excess, which will subside in a few days if left alone. It is therefore difficult to estimate the value of any treatment that is begun on the first appearance of symptoms, and I have been led to believe that many of the reputed successes from the early treatment of urethritis by solutions of bichloride were in cases that would have proved mild and of short duration under very simple measures.

As so much has been said and written of late in regard to injections of bichloride of mercury, in solutions of various strengths applied in different ways, it may not be amiss to speak more at length of this subject. I have tried this treatment in upward of thirty cases with varied results. When a solution of 1 in 20,000 and upward, as the patient could tolerate it, was resorted to, with the same restrictions that should govern the use of any injection, it seemed to be productive of good in all cases, and in some appeared to act better than any other local remedy. Weaker solutions than 1 to 20,000 have not been proved to be destructive to the gonococcus, and should not therefore be relied on, if there is any truth in the assumption that the value of the bichloride in such cases depends upon its action as a germicide. And yet, from the reported cures with this drug, it would appear that solutions of 1 in 40,000, and even 1 in 60,000, were about as effective as the stronger preparations.

Retrojections of the same solution, as hot as the patient could comfortably tolerate, did not give me good results when used early in acute cases. When the urethra was so inflamed and highly sensitive that urination caused pain, patients complained, sometimes bitterly, of the passage of the catheter, although a small, velvet-eyed, and well lubricated one was always used. I persevered for over a week with this treatment in five cases. But I was convinced that it did no good, if it did not do actual harm, and a change of treatment was promptly attended with benefit.

While I was giving such retrojections the catheter was so tightly grasped by the urethral walls in three cases that the solution would not flow, no matter how high the irrigator was held. I overcame this difficulty by momentarily closing the meatus around the catheter as soon as its eye was well within the fossa navicularis. The urethra, for the first few inches, was gently distended with warm fluid by this manœuvre, and while it was thus distended the instrument could be pushed onward with less friction and pain, and consequently with less tendency to spasmodic stricture. The same expedient I found useful when withdrawing the catheter. If the solution in the irrigator was allowed to flow out completely, the instrument was again grasped by the urethra, and considerable pain caused by its removal; whereas, by withdrawing it while the solution was still flowing, and thus slightly distending the urethra, pain was reduced to a minimum. If, however, in spite of this precaution, the catheter was still so grasped that any attempt to remove it produced pain, which would sometimes happen in subacute as well as in acute cases, the meatus was momentarily closed around the instrument, as during its introduction. But the urethra must on no account be overdistended, which may readily occur if pressure is kept up for more than an instant, or if the irrigator is held too high.

As an offset to my non-success with this treatment in cases markedly acute, I would testify to the value of retrojections of hot weak solutions of bichloride of mercury, chloride or sulphate of zinc, etc., in subacute and chronic cases, especially in those in which the deep urethra is involved. In several cases of urethritis occurring in patients while under treatment for stricture—such attacks being due to alcohol, sexual excess, and fresh exposure, and not to instrumentation—solutions of bichloride were found inferior to those of lead and zinc.

To return to the consideration of the increasing stage, some one has said that the severer the inflammation, the milder should be the local treatment, and this is a safe rule to adopt. I believe it is still the experience of the majority of physicians that in this stage, while there are much swelling of the lips of the meatus and marked pain on urination, the urethra should be left alone. The best local treatment here is that so highly recommended by Milton: frequent and prolonged soaking of the penis in water as hot as can be borne. Especially useful is this hot local bath during the act of urination, the pain of which it so much mitigates. General warm baths are also useful; but they should be warm enough to cause relaxation, for a tepid bath has a stimulating effect on some erotic patients, and provokes erections.

When pain on urinating is very severe, and is not relieved by the means already mentioned, injections of a 4-per-cent. solution of cocaine are useful palliatives, if the act of injecting does not cause too much irritation. This brings up the question, When should we begin the use of injections? My answer to that would be, As soon as the good accomplished by such treatment outweighs the irritation produced by the act of administering it.

One of the best injections to begin with, which is soothing and at the same time slightly astringent, is the following:

℞ Pulv. opii.................... ʒ j;
Aquæ destil. bullientis......... ℥ viij.
Mix, filter, and add
Liq. plumbi subacetat.......... ʒ ss.

This is practically the formula recommended by Van Buren and Keyes for balanitis, but much weaker. I sometimes add a grain of sulphate of atropine to each ounce of this solution, with apparently good effect.

If, however, even the mildest injections appear to increase the dysuria, as they occasionally seem to do when begun early, they should be stopped until the inflammatory symptoms have still further subsided. Injections should always be warm when given during the increasing or early part of the decreasing stage.

As the inflammatory symptoms subside, the solution of lead in the prescription should be increased to ʒ j or more, as the patient can tolerate it, always, however, bearing in mind the rule that an injection should never be strong enough to produce pain, or even prolonged smarting.

Of the great number of injections recommended by various authors, most dependence is still to be placed on those containing the salts of lead or zinc. The following is a very useful form of injection:

℞ Zinci sulph................ gr. ss.–iij;
Extr. belladonnæ........... gr. j–vj;
Glycerini.................. ʒ ss.;
Aquæ destil................ ℥ j. M.

When the patient objects to a colored solution, we may substitute for the belladonna a grain of sulphate of atropine to each ounce of the injection.

In some cases nitrate of silver, in weak solution, answers better than either lead or zinc. I have frequently tried boric acid, chloral, permanganate of potassium, and other injections, but still prefer those above mentioned for general use.

It is maintained that injections are the most frequent cause of swelled testicle. Strong ones have undoubtedly often produced this complication, but I do not believe that this danger exists when only those that do not cause pain or prolonged smarting are carefully used. Some writers would have us believe that even the mildest injections are capable of causing inflammation of the epididymis, and that such complication rarely or never occurs where this treatment is not resorted to.

In my own experience I have met with more cases of swelled testicle in young men who were afraid of injections, and who depended upon internal treatment alone, than in those who had made proper use of local measures as well. The worst case of double epididymitis that I ever saw was in a patient with his first attack of gonorrhœa, who was treating himself with laxatives and alkalies alone. Some months ago a gentleman came to me with swelled testicle following an attack of urethritis for which he had been treated with internal remedies only. Shortly after the testicle had resumed its normal size he again contracted urethritis of a severer type than the former attack. This, however, subsided in three weeks, without complication, under treatment by oil of sandal-wood and injections. I might cite many other similar cases, but lack of time forbids.

It is generally advised that injections be discontinued if the testicle becomes involved. I do not believe that, when properly selected, they will be any more apt to aggravate this complication than they are to cause it; but, as the discharge usually decreases or disappears entirely during the first few days of an attack of epididymitis, the injection is as well omitted until the inflammation begins to abate.

Gelatin bougies of various medications I have tried and found troublesome to the patient, and not more effective than other measures. In two cases under my care in which the long ones were used, they appeared to excite inflammation of the neck of the bladder, for both patients had attacks of cystitis shortly after their introduction.

For some time past I have been using bougies, each containing boric acid, gr. xv; ext. belladonnæ, gr. ij; ol. theobromæ, ℥ ss. A competent apothecary can make this into a bougie of about No. 17 F. in diameter, and three inches long. I have not yet ventured to try them in very severe cases, but have used them in a number of subacute ones with excellent results. The bougie should be introduced after urination, and be retained an hour or more if possible. It must be dipped in oil or liquid vaseline before its introduction. Although this undoubtedly somewhat interferes with its action, too much irritation is produced if the bougie is used without first lubricating it. It requires more care to introduce these than the gelatin bougies, and they are just as troublesome in other respects, so that they can only conveniently be used in hospital cases, and in those private patients who can be induced to take the time required for their proper application. The only really effectual way of retaining any soluble bougie in the urethra is by keeping the meatus closed by lateral pressure with the thumb and finger.

When the discharge has become chiefly mucous, I find fluid extract of hydrastis superior, in many cases, to the injections above mentioned. The non-alcoholic fluid extract is the best preparation. Let the patient provide himself with a bottle of distilled water, and begin with one part of hydrastis to eight of water, a strength which almost any urethra will bear at this stage, and gradually increase the proportion of hydrastis until a feeling of warmth is felt.

It has recently been stated that the pus in urethritis is acid in reaction, and that a cure is promptly effected by injections of a solution of bicarbonate of sodium. I have not tried this alkaline injection, but have tested the reaction of the discharge in upward of twenty cases, and in all it was alkaline and not acid. It is fair to state, however, that none of these cases were of the most severe type, although inflammatory symptoms were well marked in at least one half the number, and the test was made early in the disease.

A word in regard to syringes. The conical pointed instrument is the one now usually recommended, and is, as a rule, the best for general use; but I frequently meet with a patient having a small meatus, who can use a syringe with a short nozzle more effectively and with less irritation. Such a one, however, should be of rubber, and the nozzle only long enough to just enter the fossa navicularis. The patient should close the meatus above the nozzle, and not press the glans against it. The selection of a proper syringe should be a part of the physician's duty. He should also be assured that the patient knows how to administer an injection; for many who profess to know all about this mode of treatment will completely fail when asked to demonstrate the process. In all cases it is a good rule to have the patient bring his syringe to your office, and show his ability, or inability, to carry out your directions. If he fails, a few lessons will soon give him the necessary information.

Considerable difference of opinion exists as to the quantity of fluid to be used at each injection, and the length of time it should be retained in the urethra. Thompson says that one drachm to one drachm and a half is sufficient to distend the urethra for three inches and a half to four inches, and recommends a syringe of that capacity only. Other authors assert that one holding less than half an ounce is useless. Of the two, the larger is the best for general use, although one holding three drachms is more convenient and large enough for the majority of cases. While not more than one drachm of fluid should be injected early in the disease, when only the anterior part of the urethra is involved and its normal capacity so much diminished by the swollen membrane, later on, three or even four drachms may be required to reach all the diseased surface.

Few patients can be induced to take sufficient time to get the full benefit of an injection. The longer the solution is kept in contact with the inflamed membrane, the greater the benefit, if this prolonged distension of the urethra does not cause pain and force the patient to expel the fluid. This rarely happens, however, unless the injection is too strong, or the glans is too tightly pressed in the effort to retain it.

The frequency with which injections should be used, and the necessity of occasionally discontinuing them for a day or two, so as to see what the discharge amounts to, uninfluenced by such treatment, are points which need not detain us.

When the patient reports himself cured, it is too often the custom for both physician and patient to relax their vigilance, and in a few days the discharge may return. Far better is it for you to insist on attention to all the rules you lay down for him in the beginning, until at least two weeks have elapsed without the appearance of any discharge on rising in the morning, and for a longer period if the first few drachms of urine passed contain shreds of muco-pus that warn us of still existing trouble. Of course, if this latter condition persists beyond a few days, it will suggest to the surgeon the probable existence of some lesion other than the inflammatory one of which we have been speaking, and he will proceed accordingly. That, however, does not concern us in the present paper, for I have been dealing only with the treatment of inflammation of the urethra without any special reference to its complications or sequels.

A REPORT OF TWO CASES OF HEAT-STROKE.*

By W. H. KATZENBACH, M.D.

The following cases are reported as examples of the two varieties of heat-stroke. The first is of the congestive form, heat apoplexy or thermic fever; the second of the cardiac form, or heat exhaustion.

They are of interest from a diagnostic point of view and on account of the time and manner of the occurrence of the attacks. In recovery from thermic fever, as a rule, certain sequelæ are left, such as persisting headache, epilepsy, mental weakness, insanity, etc., while in the cardiac cases "when recovery takes place it is complete, leaving no sequelæ" (Fagge, "Practice of Medicine"). In this respect these cases are exceptional.

Case I.—E. M., fifty years of age, a large, heavily built domestic, on June 30, 1887, had been busy all day with general housework. At 9 o'clock in the evening she was found in the basement dining-room insensible. I saw her at 9.30. She was then sitting on a chair with her lower limbs extended, and her head thrown over on her right arm, which was resting on the table. It was impossible to rouse her. Her face was flushed, skin hot, respiration deep and somewhat noisy, not stertorous; pupils normal. There was general muscular relaxation, but no paralysis. There were no signs of pulmonary or cardiac disease. The breath gave no odor of alcohol.

The radial pulse was 120 to the minute, full and bounding, the axillary temperature 106·2° F. There had been no vomiting nor relaxation of the sphincters. The day of the attack and the preceding had been hot. This fact and the statement of her mistress that she had been working all day were deemed sufficient to warrant the conclusion that the patient was suffering from heat-stroke.

The following shows the changes in temperature for the days referred to:

June 29th.		June 30th.	
3 A. M.....68°	3.30 P. M..94°	3 A. M... 72°	3.30 P. M ..95°
6 A. M.....68	6 P. M....84	6 A. M....67	6 P. M.....88
9 A. M.....77	9 P. M....77	9 A. M .. 68	9 P. M.....82
12 M.......83	12 P. M....75	12 P. M....72	12 P. M.....78
Average..............78·25°		Average...............77·75°	

Her clothing having been removed, she was placed on a mattress on the floor in a line with the passageway between the rooms, where a faint breeze could be felt, and sponging with ice-water and vigorous fanning were begun. Cloths wrung out of ice-water were applied to the head. At 10 P. M. a five-grain capsule of acetanilide was put into her mouth, and teaspoonfuls of water were given to favor its being swallowed. At 10.20 her temperature was 105·2°. At 10.45, pulse 116, temperature 103·3°. At 11, pulse 116, temperature 102·5°. Sponging and fanning had been continued up to this hour, when she regained consciousness and protested against their further use. She then sat up, put on some clothing, and walked up one flight of stairs. She said she felt comfortable, and expressed the opinion that she needed no further attention. Directions were left for another acetanilide capsule, to be given after midnight if fever should continue.

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I left town the next day, and did not see this patient again during the summer. She changed her place of service about September 1st, and after I had made some effort to find her she appeared at my office to-day, when the following statement was obtained from her:

Painters had been at work in the house for several days, and the odor of paint had caused her sick-headache and dizziness. Off and on through the day of her attack she had felt sick at the stomach, dizzy, and "trembling." In the afternoon, while scrubbing the floor of a sunny room, she felt very hot, but perspired freely. She cooked dinner in the evening, but dizziness continued. Objects looked red, the gas-jet appearing like a red star. Her hands trembled so that she could scarcely wash and put away the dishes. She remembers that she did put some away, but from that time until she regained consciousness at 11 P. M., and asked the time, everything is a blank. She does not remember how she reached the chair in the dining-room.

Her fever continued through the night after I left her. She slept very little, and the next morning headache and dizziness returned, and continued until July 4th. From this time she felt well, except when she went into the yard while the sun was shining. She did not venture into the street until September, but soon became accustomed to the sun. To-day she says she is perfectly well, and has had no headache for several weeks.

Case II.—Mr. L., a merchant, thirty-nine years of age, of abstemious habits and with no history of venereal disease, dwelling in an inland town of New Jersey, had been closely occupied with his business during the past July. The month, it will be remembered, was unusually hot. After several days of suffering with pain at the top of his head, he arrived at the sea-shore on August 2d. On August 3d the temperature had fallen, the sun was shining brightly, and a pleasant easterly wind prevailed. In the forenoon of this day, as he came out of his bath-house, he complained to his wife, who accompanied him, of his head feeling hot, and wore his hat to the surf, about fifty yards distant, for protection from the rays of the sun. He bathed ten or fifteen minutes, and, though not fatigued, came out of the water and sat on the sand. With no premonition, he suddenly felt a sharp, darting pain through the head, followed in a few moments by another more severe. He started for the bath-house, bit the arm of his wife, who was assisting him, vomited, and fell insensible on the sand. He was carried to the pavilion, where I saw him a few minutes later. His general surface was pale and cool; respiration slow and shallow; pulse very feeble and flickering; axillary temperature 97° F.; pupils of moderate size. As I took his hand he opened his eyes feebly, asked "What is the matter?" and relapsed into insensibility. Two syringefuls of brandy were immediately injected under the skin. His bathing suit was removed, when it was discovered that he had had an evacuation from the bowels. He was rubbed dry, covered with blankets, and surrounded with hot-water bags and bottles. There was some response of the heart to the brandy given hypodermically, but, the pulse continuing weak, $\frac{1}{100}$ of a grain of atropine was injected. He was kept quiet, and given brandy and water in small quantities by the mouth. His condition steadily improved, and in an hour or so his surface was warm, and his radial pulse of good volume. He regained consciousness, but appeared dull. About two hours after the beginning of the attack he vomited, and complained of severe pain at the top and back of his head. This was relieved by morphine subcutaneously. From this time he rested quietly on a cot until 5 P. M., when vomiting was repeated. At 7 P. M. he was carried on the cot to his hotel. Complaining of return of headache, he was given another subcutaneous injection of morphine. He slept through the night, and awoke in the morning with nausea. This disappeared after a cup of black coffee, and from this time he had no disturbance of the stomach, but a good appetite and digestion. At noon pain at the vertex and occiput returned with increased severity, and from the latter point extended down the spine, buttocks, and posterior aspect of the thighs. He complained also of intense pain and tenderness of the eyeballs, intolerance of light, and clouded and double vision. The pupils were normal; the ocular muscles were not impaired in their action. He rapidly became deaf, but had no pain in the ears. In addition to pain in his lower limbs, there was weakness, so that he could scarcely totter across his room. The patellar tendon reflex was absent. He was irritable and impatient, but otherwise his mental condition was not disturbed.

Codeine and bromide of sodium were prescribed. In eighteen hours he took three grains of the former and half an ounce of the latter with no relief. Morphine was required to be given subcutaneously at night to secure sleep.

At my request, Dr. Hall, of Philadelphia, a summer resident, made an examination of his eyes and ears. The optic discs were swollen, and there were hæmorrhages into the retinæ. The appearance of the ears was normal. Bichloride of mercury, gr. $\frac{1}{30}$, and iodide of potassium, gr. v, were ordered to be taken three times a day. He was given twelve minims of Magendie's solution of morphine subcutaneously every night. No improvement appeared until a blister was applied to the nape of the neck, and the dose of the iodide was increased to gr. xv, three times a day, the bichloride being unchanged.

His pulse ranged from 72 to 88, his temperature from normal to 99·5° F. The urine remained normal. When improvement began it progressed rapidly. The head pains were the first to get better, then the ocular pain and disturbed vision; afterward, the deafness and weakness of the lower extremities; so that in ten days from the beginning of the attack he was able to walk on the hotel piazza. He became brighter and more cheerful, and enjoyed a good appetite and digestion. On August 14th he took a walk of some distance. On August 15th he returned home. The pain in his head had not entirely gone, so he was requested to continue the mercury and iodide of potassium, and to keep away from his business for a time.

August 25th he writes: "I am getting along very nicely. I remained very quiet for a few days after returning home, but gradually grew stronger, and had less pain in my head, and on Tuesday [23d] I ventured down to my place of business to attend to some light duties." "Last night was the first real good night's sleep I have had since I was first taken, and I assure you I felt refreshed this morning. My eyes have pained me, and my head has felt top-heavy the last day or two." "I shall in a few days be able to attend to business the same as ever."

October 14th he writes: "My general health has been good since I wrote you last, with the exception of nervousness. I find that on getting excited it works on my nerves, and I can not sleep at night. That, I believe, is the only thing I can complain of." "My appetite has been excellent. I kept on with the tonic three or four weeks and stopped. Have taken no other medicine since. I have been in the sun for some time on two or three occasions, but it does not seem to affect me any. I really feel as well as I ever did, with the exception of being very nervous at times. I am not troubled with any pain in the head, as I was afraid I should be. I have lost but two or three days from business since the first week after I returned home."

THE PNEUMATIC RESISTANCE VALVES.

By SOLOMON SOLIS-COHEN, A. M., M. D.,
PHILADELPHIA.

The great desideratum in the pneumatic treatment of pulmonary disease has been a cheap and portable apparatus.

Some four years ago I presented to the profession an apparatus combining the bellows and gasometer plans, which has since been used with great satisfaction by many of my co-laborers as well as by me. Simple as this instrument is, and although nothing better has yet been suggested, it still falls short of the ideal apparatus for home use by patients; and further experimentation has convinced me that if we confine our attention to *facilitating* the respiratory act, we shall not be able, until some new form of force is discovered, to produce either a cheap or a compact instrument that will be really serviceable, as the expenditure of force against atmospheric pressure is needful in both phases of the act of respiration, and machinery capable of developing the necessary power—if only a foot-bellows—must occupy more or less space and be more or less expensive.

For office use, however, and for home use by patients who need to be assisted to respire, I still prefer the Cohen-Richardson apparatus as being equally efficient with any, while simpler, neater, smaller, cheaper,* and more convenient than any other reliable instrument with which I am acquainted.

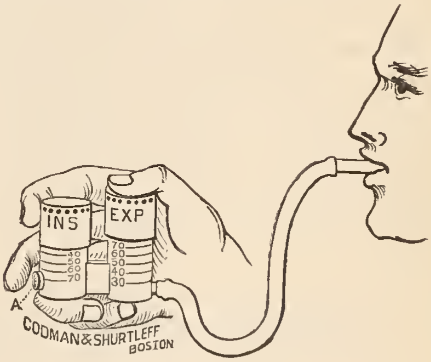
For use by patients who possess a sufficiency of unimpaired lung tissue and who preserve the power of muscular exertion, I have had an apparatus made which produces the desired physical and physiological effects by *opposing* the patient's respiratory efforts. Thus the necessity for any apparatus to supply power is avoided. We introduce into the current of respired air a measured impediment which acts synergistically with atmospheric pressure, and the patient's muscles supply the power to overcome both. We thus strengthen the respiratory muscles by exercise qualitatively appropriate and quantitatively regulated. We prolong the affected phase of respiration, rendering it more efficient, and during the entire period of performance differentiate between the pressure upon the pulmonary surface and that upon the general periphery, producing the well-known mechanical effects of such differentiation.

Inhalation, being resisted by a spring-valve adjusted to any desired pressure, is performed as from a partial vacuum. The chest-walls are expanded beyond the ordinary range, and the contained air of the lungs is rarefied to a degree beyond the ordinary negative pressure (— 1 mm. Hg), equivalent to the tension of the spring by which the entrance of air is opposed. When, by the diminution of air-pressure on the thoracic side of the valve, atmospheric pressure upon the external side is left free to act, the air enters the lungs, and is there rarefied by the further expansion necessary to maintain the current, for as soon as pressure upon the thoracic side loses its (extra) negative quantity exactly equal to the positive quantity of the spring, the latter prevents further ingress of atmospheric air. All the air between the valve and the pulmonary capillaries is, therefore, rarefied air, and its degree of negative pressure is regulated by the degree of positive pressure represented by the tension of the spring. The latter is regulated by a screw.

Exhalation, being resisted in a similar manner by a spring valve, is performed as into a denser atmosphere. An increased muscular effort is necessary in order to contract the chest upon the contained air, and, by condensing it, overcome by positive pressure the resistance of the valve. All the air between the valve and the pulmonary capillaries is, therefore, compressed to a degree (in excess of the ordinary positive pressure of + 2 to 3 mm. Hg) equivalent to the tension of the spring; and the contraction and necessary effort must be continued throughout the act in order to maintain the current.

If, then, we represent atmospheric pressure by P, the tension of the spring (and friction) by S, and the ordinary positive or negative pressure of respiration by $\pm P$, the pressure within the thorax during inhalation will be $P - S$, and during exhalation $P + S + P$, or, disregarding the constant P, the alteration of intra-thoracic pressure during inspiration is $- S$, and during expiration $+ S$.

The instrument manufactured for me by Messrs. Codman & Shurtleff, of Boston (shown in the figure), is an improvement upon the rough sketch submitted to them, and I desire to acknowledge their many courtesies.



It consists of two small hollow cylinders of metal, closed in air-tight at the bottom and open at the top, where they are covered by cylindrical caps, communicating by a row of perforations with the atmosphere. The two cylinders communicate at the bottom by means of a junction-tube connecting them antero-posteriorly, and the caliber of the tube is prolonged beyond the posterior cylinder into a nipple upon which fits a rubber tube with a mouth-piece. The anterior cylinder is perforated at the front, opposite the junction-tube so that a free passage to and from the mouth-piece and at mosphere is thus afforded. Above the level of the junction-tube in each cylinder is an ebonite valve, pressed upon by a spiral spring connected with the cap. In the anterior (inspiratory) cylinder the valve will yield to downward pressure sufficient to overcome the tension of the spring. In the posterior (expiratory) cylinder it will yield to upward pressure. The tension of the springs may be regulated by turning the caps. It is increased by descent of the cap in the expiratory valve, by ascent in the inspiratory valve.

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* It costs, complete, about thirty dollars.

A scale on the outside of each cylinder shows the pressure-equivalent of the spring-tension (and friction) in fractions of an atmosphere, from $\frac{1}{70}$ to $\frac{1}{30}$.

The size of the metal work, when the caps are screwed down, is only two inches by two inches and a half by one inch. A convenient length for rubber tube and mouthpiece is about ten to twelve inches. Each patient should purchase an instrument for his own use, as the cost is but trifling.* With the one intended for office use, in preliminary observations, a number of mouth-pieces should be obtained. The instrument may be cleansed with running water, not warm, however. Boric acid may be added to the wash-water if desired.

If the cylinders be held in the hand and the mouthpiece taken between the lips, there are three possible channels of communication through the instrument between the lungs and the atmosphere.

1. In either phase of respiration: Below the valves, through the junction-tube and anterior perforation.

If the latter is occluded by the finger, the air can pass:

2. *Into the lungs* through the *anterior cylinder*, by *depressing the valve*, to accomplish which the *intra-thoracic air-pressure* must be *lowered.*

3. *Out of the lungs* through the *posterior cylinder*, by *elevating the valve*, to accomplish which the *intra-thoracic air-pressure* must be *raised.*

To use the instrument, the spring of the desired valve is adjusted by turning the cover until its lower edge corresponds with the mark upon the scale representing the pressure to be employed. The finger is placed over the opening during the phase of respiration to be affected, and removed during the opposite phase. When both phases are to be affected, both valves are adjusted, and the finger is kept over the opening during the entire act. It is not necessary to hold the nostrils.

The physiological effects of inspiration of rarefied air, briefly stated, are:

The normal effects of inspiration exaggerated.

There is increase of the muscular effort necessary to produce expansion of the chest, of the time necessary to complete the act, and of the volume of air necessary to be inhaled to furnish a sufficient weight of oxygen. If the requisite effort can be made, there is increase in the elastic tension of the lungs and in the volume of tidal air. The subsequent contraction of the chest is at first passively facilitated, afterward impeded from resistance of the denser outer air. Pulmonary ventilation and gaseous exchange are, on the whole, increased, vital capacity augmented, and the muscles of inspiration strengthened. Thoracic aspiration being increased, the blood tends at first to leave the periphery and accumulate within the thorax, but as more blood than usual is delivered to the left ventricle, and this is able to contract with a sufficient degree of force to overcome the higher peripheral pressure, the final equilibration is established by a quickening of the circulation, with an increase in the fullness, blood-pressure, and musculo-elastic tension of the arteries.

Expiration into compressed air likewise exaggerates the normal effects of expiration.

The act being impeded, increased muscular effort becomes necessary; the time is prolonged, and, provided there is sufficient muscular power to overcome the obstacle, a greater volume of air is exhaled.

If the power is insufficient, the volume of tidal air becomes gradually diminished in both phases of respiration, subsequent inspirations being rendered shallower. The excursions of the diaphragm and of the thoracic walls become less and less, but at the expense of contraction, fixed expansion being finally maintained, and, if the procedure is pushed to excess, apnœa may result. Pulmonary ventilation is diminished, and gaseous exchange is retarded. But, although the excretion of CO_2 is diminished, the absorption of O by the hæmoglobin is said to be facilitated.

When, however, the amount of muscular effort sufficient to expel the ordinary volume of tidal air can be exerted, pulmonary ventilation and correlative effects are increased. In either case, the ultimate effect is increased power in the respiratory muscles, increased thoracic expansion, and increased vital capacity.

The blood is expelled from the chest and forced toward the periphery. Cardiac dilatation is antagonized, systolic contraction is aided. The heart and lungs are therefore depleted, and the systemic vessels, especially the veins, overfilled. Unless the subclavian artery be compressed by the employment of too great a pressure (in which case the pulse may disappear), the pulse becomes slower, full, and hard.

The effects, then, are similar to those obtained in Valsalva's and Mueller's experiments, but less in degree, owing to the lesser pressure. In Valsalva's experiment with forced expiration there is an average pressure of + 87 mm. Hg, and in Mueller's experiment with forced inspiration there is an average pressure of − 57 mm. Hg. With the pneumatic resistance valves, as here constructed, the possible range of the apparatus is only ± 10·8 to 25 mm. Hg.

Here, then, lies the chief advantage of the apparatus over such instruments as "Dobell's residual air-pump" and others utilizing the same principle, as well as over simple voluntary forced respiration, in that it allows the pressure to be accurately adjusted to the requirements of the case.

It will also be seen that such undesirable disturbance of the circulation as might be caused by the employment of either valve may be neutralized by the use of both, in which event we would then have *an exaggerated respiration in both phases*, increasing synergistic effects and neutralizing antagonistic ones.

The therapeutic applications will be chiefly in cases of asthma, chronic bronchitis, emphysema, incipient phthisis, chronic pleurisy with effusion, and dilated heart. As a measure of regulated pulmonary gymnastics, I anticipate for the instrument a useful place in the hygiene of ill-developed children and adolescents, more especially in the prophylaxis of phthisis.

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* Four dollars.

The times, duration, pressure, choice of valves, etc., will vary with the circumstances of the individual cases, and no hard-and-fast rule can be given.

Speaking very generally, I should say that from twenty-five to one hundred inspirations, once, twice, or three times a day, would express the usual range. In asthma both valves should be employed, but with a greater expiratory than inspiratory pressure, the object being to prolong the acts, to confine the air in the chest, and to relax spasm.

In chronic bronchitis, pleural effusion, incipient phthisis, and dilated heart, where the exercise of pressure upon congested vessels, unused alveoli, inflammatory products, or cardiac chambers is the object, the expiratory valve will, as a rule, be preferable.

In emphysema the use of the inspiratory valve seems to be indicated as a means of diminishing the intra-alveolar pressure, and permitting such contraction as may still be possible. As a measure of respiratory gymnastics, the employment of both valves will usually be indicated.

As before stated, however, the personal and pathological equations must be studied independently in each case, and the treatment modified accordingly. As in the employment of any other powerful agent, intelligent discrimination and caution will be necessary. That which, properly used, is productive of good may be even more productive of harm if used improperly. It is hardly necessary, but it may be as well, to add that the resistance-valves are offered to the profession, not as embodying any new mechanical or therapeutical principle, and not as being capable of doing anything more than experience has shown can be legitimately alleged for pneumatic treatment, but as a cheap and convenient instrument, which may be with safety intrusted to an intelligent or obedient patient, who, if he does not thus receive a pocket-climate, is at least placed in position to obtain some of the benefits of pneumato-therapy.

WOMAN AND NATURE.

By LOUISE FISKE-BRYSON, M. D.

A NOTED gynæcologist in private conversation once made the sweeping statement that cultivated women were absolutely devoid of natural human instincts, and must in consequence take an intellectual view of the situation, allowing reason to supply, as far as possible, the place of what ought to exist and yet does not. The speaker added that he believed instincts had been educated all out of American women.

To secure some data upon this subject, twenty-five cultivated women were closely questioned in regard to the matter of instincts. They were of average or superior intelligence, had received excellent advantages of education and travel, and occupied good social positions. Their ages ranged from twenty-five to forty. In style, temperament, and quality there existed great variety, as well as in height, weight, and physical development. They had married somewhere between the ages of nineteen and thirty-five. Nearly all were mothers. These women answered unreservedly and with apparent sincerity.

In the case of five the answers were negative. Only through hearsay did they know anything of human instincts. The maternal instinct *seemed* to be normally developed in them all; but closer questioning proved it to be what I shall have to call the æsthetic view of maternity, as it dealt largely with ribbons, laces, pink cheeks and bright eyes, and the proud knowledge of possession. The sense of protection was entirely absent. There was no real willingness to give up liberty or pleasure for maternal duties, though public opinion secured a fair share of attention to them. None of these women wished to suckle their own infants, and some were physically incapable of the task. Nine women confessed to occasional and somewhat variable knowledge of the sexual instinct. The maternal instinct was developed normally in all, and the sense of protection present. They suckled their own infants, occasionally under protest; but they did it all the same, and took excellent care of them in other respects.

Eleven women stated that they were conscious of possessing natural human instincts—sexual, maternal, and the sense of protection. All of them who were mothers suckled their own infants from preference as well as principle. In the case of three, lactation proved an unusually severe strain; yet any medical suggestion concerning artificial feeding was met with quiet scorn. There was literally no use in talking. Persist they would, and persist they did. The children of all these mothers excel in strength and beauty, both of mind and body. The women themselves possess a high order of intellect, together with great energy and marked force of character. One is a royal beauty, admired of two continents, whose child is as handsome as herself. Four are physicians, three are engaged in literature, and three are exquisite and dignified matrons whom to know on easy terms of familiar friendship is in itself a liberal education. They all have done and are doing sound solid work that is of value to the world. In the minds of all these women lies the firm conviction that their children are their best creation. As one said laughingly, she combined from the force of necessity the two *great* professions—maternity and medicine.

From the foregoing, the following conclusions may be drawn:

1. Cultivated women, of the highest type and of most value to the world, are in no wise deficient in natural instincts.

2. Cultivated women of a lower type, of the order known as *petites maîtresses*—women of elegant pretensions—are more or less deficient in natural instincts.

3. Cultivated women of still another type, *without particular aspirations of any kind*, are often devoid of natural instincts and hopelessly astray in all that pertains to nature.

4. Women belonging to the second and third types are spoken of in and out of the books as American women, a statement that fails in abstract justice to the race. Women of the first type are also Americans.

5. Happiness is not possible to women outside the lines of nature; and, therefore,

6. It is the duty of physicians to recognize the fact that some have

> "Wandered away and away
> *From* Nature, the dear old nurse,
> Who *would* sing to them night and day
> The rhymes of the universe,"

and to search out the causes, and restore as far as possible these unfortunate women to harmonious living by correcting false impressions and wrong ideas.

Three agents have been instrumental in giving women wrong ideas concerning instincts. One is education. To paraphrase Madame Roland, "O Education! what crimes have been committed in thy name!" Another is so-called religious training. Judaism is not responsible for the false doctrine that the body is the arch-enemy of the soul. The Hebrew race have lived always in the lines of nature, as their high average of talent and power continually testify. Nowhere in the Old Testament is there condemnation of instincts. Rather is this false notion a dark Buddhistic cloud that settled over early Christianity—a dark cloud that the bright rays of science must in time utterly dispel. Late physical development among cultivated American women is another factor in the matter. Of five women questioned at random, three stated that they had increased from half an inch to two inches in height since the age of twenty, and developed into womanly proportions between the ages of twenty-five and thirty. This is not the way they do in books. The rules of feminine development in literature are most precise, and seldom vary. It is true that girls of the higher class often menstruate early—at eleven, twelve, sometimes at ten years. Yet the presence of function is no proof of perfected structure. Sometimes this early menstruation means overtaxed emotions, or some inequality of development, or deficient nutrition. It has misled writers into stating that American women develop early. The exact truth seems to be this: American girls of the cultivated class frequently menstruate early, and American women of similar social position develop late. Those of the twenty-five women questioned about instincts who acknowledged having any, stated they had not been conscious of them at first, but that as time went on they seemed to develop. The average age of their conscious recognition was about twenty-seven. If this late consciousness is accompanied by equally late perfection of structure, it follows that very early marriage and maternity among all educated women is always as much an outrage against nature, as the surgeon knows only too well it is frequently in certain individual cases.

There is still another reason why some of us take a wrong view of life and its relations—an unrecognized reason. American women, as a rule, receive a better literary education than American men of the same class. This gives a superficial excellence that dazzles men who marry them into faith in their absolute superiority. If literary distinction were the standard by which to judge intrinsic merit, this might be true. Such distinction is but the pale reflex of life; and life, with character as its outcome, is the ultimate test of the *ego*. A man who keeps his promises, who meets responsibilities with cheerfulness and generosity, and who is reliable throughout, can well afford to be ignorant of sonnets, *chiaroscuro*, and the *Niebelungenlied*. Just here the women under consideration gain an unfair advantage which they use selfishly or unconsciously, according to their quality. They sit enthroned after the manner of a goddess, "too bright, too good for human nature's daily food," receiving care, kind consideration, and homage unlimited, giving little or nothing in return and strangely forgetful of the written and unwritten terms of their contract. Year after year they continue to dodge responsibilities, growing less helpful and less happy as time goes on, until they undergo a species of race degeneration and sink into a condition of chronic half-invalidism. I am well aware there is another side to this picture; that there are men with an oppressive iron will that crushes feminine fancies and lops off innocent whims till there is no sap left in women to bud or blossom any more; men capable at all times of Richard III's calm brutality in his answer to Anne Neville's humble inquiry, "What have I done?" "To me the worst of crimes, outlived my liking." But they are rare, and not the exponents of American civilization, which is all chivalry and genuine kindness.

We live in a revolutionary time. The old order of thought has given way, and the new is not yet crystallized. In this transitional period domestic life suffers loss. It is not noble and dignified as of old, nor yet the fair and gracious estate it will eventually become. If I had time to be a woman with a mission, I should go up and down the world trying to persuade other women that by being the patient mothers of children, good housewives, and real companions to the men of their choice, they were doing the best there was to do. The wife stands at the point of power, for complete living is only to be found in the union of two. This relation satisfies all the needs of a woman's nature, presents that variety and periodic change so essential to healthful feminine growth, and affords the best conditions for the development of mind and character. Herbert Spencer is right when he says: "It is a truth yet remaining to be recognized that the last stage in the mental development of each man and each woman is to be reached only through the proper discharge of the parental duties. And when this truth is recognized, it will be seen how admissible is the ordination, in virtue of which human beings are led by their strongest affections to subject themselves to a discipline they would else elude." This is the way a little child shall lead them. To the last syllable of recorded time, one profession for women must ever hold the first rank as a calling of great dignity and beauty—the profession of a matron.

15 West Thirty-fourth Street, New York.

Reflex Neuroses from Constipation.—The "Lancet" says: "Besides disturbances of the circulation, and especially palpitation, irregularity of pulse, and vertigo, which may be attributed to excitation of the cardiac branches of the great sympathetic, Kisch believes that rebellious hemicrania often recognizes no other cause than constipation. . . . Although Kisch has collected forty-eight cases in which cessation of constipation was followed by relief from diverse and chronic neuralgiæ, we may well question whether intestinal sluggishness was the *causa causans* of the various neuralgiæ. The alteration of even one element can not be effected without the production of more than one result."

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FÆCAL ANÆMIA.

At a recent meeting of the Medical Society of London, Sir Andrew Clark read a notable paper entitled "Observations on the Anæmia or Chlorosis of Girls, occurring more commonly between the Advent of Menstruation and the Consummation of Womanhood." Under this title the "Lancet" publishes the paper, but it more pithily expresses the view that the author took of the affection in the caption "Fæcal Anæmia," which heads its report of the discussion. It is not a particularly new idea that various diseases of the system at large, especially those that simulate the manifestations of certain diatheses, owe their origin and maintenance in great measure to inadequate intestinal action. Anæmia is no exception, and it is safe to say that almost every acute and experienced observer looks upon it as at least decidedly aggravated and protracted by torpor of the intestinal canal. Nevertheless, so far as we are aware, never before has so thorough and convincing a case been made out for the theory of the dependence of anæmia on constipation as in Sir Andrew Clark's paper.

We have not space to give a summary of the argument, but must content ourselves with presenting some of the more practical aspects of the author's conclusions. The crucial test of the theory, he admits, is in the treatment, and he maintains that the treatment which most speedily and effectually cures the disease is that in which, by the use of tonic aperients, full and regularly recurring action of the bowels is produced; that with the suspension of this treatment the disease recurs, to subside again on its resumption; and that no treatment appears to be permanently successful which does not provide means for securing daily relief to the intestinal canal.

In ordinary cases, he would direct the patient to sip a quarter of a pint of cold water on waking in the morning; to take a tepid sponge-bath on rising, drying herself quickly and then being rubbed briskly with towels; to clothe herself warmly and loosely, taking care that there is no constriction of the body or of the limbs. She should have four simple, but liberal meals, daily: Breakfast, between eight and nine, of whole-meal bread and butter, with one or two eggs, some broiled fresh fish, or the wing of a cold chicken or pheasant, and, toward the close of the meal, half a pint of equal parts of milk and tea, not infused longer than five minutes; lunch or dinner, between one and two, of fresh, tenderly dressed meat, bread, potato, some well-boiled green vegetable, and any simple farinaceous pudding or cooked fruit, preferably apple, drinking one glass of Burgundy, clear or in half a tumblerful of water; tea, between four and five, of whole-meal bread and butter, with a cup of equal parts of tea and milk; and dinner or supper, between seven and eight, resembling the midday meal, but smaller in quantity. Nothing is to be taken after this meal, and nothing between meals. The patient should walk at least half an hour twice a day, and as much more as her strength and convenience will allow. She should go to bed about ten o'clock, and at that time the sponging and toweling should be repeated. The bedroom should be cool and well ventilated. The patient should "lead a simple, regular, active, occupied, purposive life," and not notice or distrust herself. This seems to us an excellent regimen in the main, but we would substitute coffee for the tea.

Together with these hygienic instructions, Sir Andrew Clark prescribes an old-fashioned ferruginous cathartic, to be taken twice a day—usually some such acid mixture as one of twenty-four grains of sulphate of iron, six drachms of sulphate of magnesium, a drachm of aromatic sulphuric acid, two drachms of tincture of ginger, and eight ounces of compound infusion of gentian or quassia, one sixth part of which is to be taken twice a day, at about eleven and six o'clock. Occasionally this causes nausea, dries the skin, and is otherwise ill borne. In such cases he prescribes a mixture which is much the same, save that it contains two drachms of bicarbonate of sodium instead of the aromatic sulphuric acid, together with a drachm of spirit of chloroform. If neither mixture agrees, he orders sulphate of iron in pills, to be taken with the meals, and a saline aperient in the morning. Under this plan of treatment, nine girls out of ten recover their health in from a month to three months, and the recovery is very likely to prove permanent if they are then ordered a pill of aloes, myrrh, and iron, to be taken once or twice a week in doses just sufficient to bring about a moderate natural action of the bowels.

HEART TROUBLES IN CONNECTION WITH TYPHOID FEVER.

Of the many complications and sequelæ of typhoid fever, there are few, if any, of greater importance than affections of the heart and blood-vessels. Within the last few years pathological study has shown how common they are, and the profession has been made acquainted with them largely by the teachings of Hayem, Martin, Barié, Osler, and others; but our clinical knowledge of the subject has hitherto been very meager. The pathologist could readily explain the sudden deaths that were so common in typhoid fever, even during the period of convalescence, but the clinician did not always foresee the probability of such a termination, and consequently too often failed to take precautions to prevent it. Such being the case, a recent essay by Landouzy and Siredey, the first portion of which has been published in the "Revue de médecine," is particularly opportune. Last year the same authors drew attention to the lesions of the heart and the blood-vessels found in typhoid fever, and since then they have studied the subject from a clinical as well as from a pathological point of view.

The article alluded to gives the results of their observations in fourteen cases. In one case, that of a woman, death took place quite suddenly on the twelfth day of the fever, the patient dying in syncope on sitting up in bed. On the day before her death her pulse was 96, irregular, and compressible, and there was a soft systolic murmur. Diffuse sclerosis of the heart and kidneys was found post mortem. In another case, a girl, eighteen years of age, previously healthy, died rather suddenly on the twelfth day of the fever. At the autopsy, periarteritis and diffuse myocarditis were found. There had been no clinical evidences of the pathological lesions until an hour or two before the girl's death. In the next case, a man, twenty-three years old, died on the forty-third day of the fever, after having had several intestinal hæmorrhages. The heart-sounds were free up to the very last. There was infiltration of embryonic cellular elements in the walls of the blood-vessels of the viscera, especially the heart and the liver. In another case, cardiac pain and a loud systolic murmur were developed on the tenth day of a moderately mild attack of typhoid fever. After a few days the pain and the murmur gradually grew less intense, and in fifteen days both had entirely disappeared, and the patient made a good recovery. In another case there were signs of mitral insufficiency during the third week, and when the patient left the hospital, convalescent, the murmur had become more intense. In another case the interesting observation was made of the development of a double aortic lesion during a relapse of a mild attack. The patient was slow in recovering, and left the hospital with a loud diastolic murmur. Two other cases were instructive from the fact that, the patients' hearts having been carefully examined from day to day during a rather mild attack, a mitral murmur made its appearance in each case during convalescence, which seemed to be progressing favorably. In three cases the patients were admitted into the hospital for various heart affections which, on careful investigation, were traced back to attacks of typhoid fever occurring two, five, and fifteen years before.

These observations are especially interesting at a time when thoughtful physicians are disposed to question if the routine employment of internal antipyretics in typhoid fever is not doing harm. In the course of a discussion at the New York Academy of Medicine, not long ago, Dr. Loomis made the statement that during his last term of service at Bellevue Hospital he had had a much smaller percentage of fatal cases of typhoid fever than his immediate predecessor—simply, he thought, from his having omitted the use of internal antipyretics. Drugs of this class, as is well known, are nearly all cardiac depressants, and, in the light of our present knowledge, should be used with a very sparing hand. The writer vividly recalls a mild case of typhoid fever in which the persistent administration of .acetanilide came near bringing about a fatal result. Lately such a result has been recorded in a German journal; in that instance the dose was small, and had been repeated only two or three times.

MINOR PARAGRAPHS.

CATHETERIZATION OF THE URETERS.

At a recent meeting of the Obstetrical Society of Philadelphia, for notes of which we are indebted to the secretary, Dr. B. C. Hirst related the case of a young primigravida who had pus and albumin in her urine, and complained of pain in the region of the right kidney. Three weeks after her delivery both the amount of urine and that of its abnormal ingredients showed a decided diminution, and the temperature rose to 104° F. These questions then came up: 1. Was the right kidney the seat of a calculus, which had suddenly plugged the outlet, or was the pain on the right side referable to a diseased state of the left kidney—a possibility to which attention had been called especially by Mr. Knowsley Thornton? 2. Were both kidneys diseased? 3. Did the pus really come from the kidney or from the bladder? These questions Dr. Hirst had been able to solve by the use of ureteric catheters, which had been brought to the society's attention and kindly loaned to him by Dr. Kelly. Urine from the two kidneys was collected in separate test-tubes, and it was shown that both kidneys were diseased, but the right one more decidedly. Dr. Hamill said that he, too, had used the catheters satisfactorily since the preceding meeting, and Dr. Kelly stated that he had used them successfully in a case of ureteritis in a young unmarried woman, and had found no difficulty in passing them.

A NEW LARYNGOLOGICAL JOURNAL.

The French already had several creditable journals of laryngology, but nothing but good to the specialty can come of the appearance of a new one, especially one so well calculated to win respect as the "Archives de laryngologie, de rhinologie et des maladies des premières voies respiratoires et digestives." Notwithstanding its verbose title, which, we venture to predict, will seldom be given it in citations, the new journal impresses us favorably. It is edited by Dr. Albert Ruault, with the collaboration of Bouchard, Cornil, Verneuil, Trélat, and a number of other well-known gentlemen, and published by G. Steinheil Paris.

MEDICAL DIRECTOR VOLLUM'S REPORT.

The profession is accustomed to the excellent annual reports prepared by the Surgeon-General of the army, but it is not common in times of peace, so far as our memory goes, for department medical officers to be called upon for reports concerning the sanitary state of the forces under their care. The Adjutant-General of the Department of Texas, however, lately called for such a document from Lieutenant-Colonel and Surgeon Edward P. Vollum, which has been issued in the form of a sixteen-page pamphlet. Dr. Vollum's report is to a great extent statistical, but it deals also with a number of matters of general sanitary interest, and we trust that the custom of issuing such reports will become more general.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 29, 1887:

DISEASES.	Week ending Nov. 22.		Week ending Nov. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever..............	27	7	18	7
Scarlet fever..............	95	18	100	12
Cerebro-spinal meningitis....	2	2	4	3
Measles..................	41	6	46	8
Diphtheria............	133	42	184	58
Small-pox................	1	0	0	1

The late Dr. Theodore Romeyn Varick.—At a largely attended meeting (the largest ever held in the county) of the profession of Hudson County, held in Jersey City, N. J., Saturday morning, November 26, 1887, the following preamble and resolutions, presented by the committee, consisting of Dr. Gordon, Dr. Kopetschny, and Dr. Morris, were unanimously adopted:

The hand of death having removed from among us our esteemed associate, Theodore Romeyn Varick, whose long and distinguished services as physician and surgeon render it eminently proper that we should place upon record our appreciation of his merit; therefore, be it

Resolved, That in his close identification with a specific aim (the advancement of the art of surgery), his devotion to the profession, his self-reliance and unswerving principle, striving for the right as best he understood it, he has really fulfilled his mission, and in his death the profession has lost one of its ablest exponents, the people a great friend, and the State an estimable citizen.

Resolved, That we tender to his afflicted family our earnest sympathy in this their hour of trial.

Resolved, That we attend the funeral services from his late home in a body, and that a copy of these resolutions, signed by the president and attested by the secretary, be transmitted to the family of the deceased, and published in the city papers and the "New York Medical Journal" and the "Medical Record."

[Signed.] { A. A. Lutkins, M. D., *President.*
W. Perry Watson, M. D., *Secretary.*

The following are the resolutions of the Medical Board of St. Francis Hospital regarding the death of the late Dr. T. R. Varick:

The Sisters in charge and the medical staff of St. Francis Hospital, Jersey City, deploring the sudden and unexpected death of their late distinguished associate, Dr. Theodore Romeyn Varick, unite in giving public expression to their great sorrow, and desire to place on record their appreciation of the exalted character, superior abilities, and valuable services to the science of medicine of their late friend and colleague.

Resolved, That words are inadequate to express our sense of bereavement in the loss of one who pre-eminently excelled in all the attributes of a great and true physician; his erudition of mind, clear and logical; his many and valuable contributions to medical science—particularly in the branch of surgery—original, concise, and practical; his noble devotion to his profession, and the tireless industry exemplified in the daily practice of his art; his purity, simplicity, and sterling honesty of character—open and frank himself, he hated sham and deceit; his courtesy and ethical conduct toward his professional brethren.

Endowed with all the virtues that add luster to the character of a Christian gentleman, he was loved, revered, and admired by his friends.

That the great heart, actuated by the highest aims and noblest impulses for the betterment of suffering humanity, and so full of love and generosity for his friends, is stilled in death, is a grief to us that time is powerless to assuage.

Resolved, That we tender to the family of the deceased our deep sympathy in this great affliction that has come upon them. Words indeed, we know, are idle to comfort anguish of heart such as theirs, and we can but sorrow with them.

Resolved, That a copy of these resolutions be sent to the family of the deceased and be published in the Jersey City daily papers, the New York "Medical Record," and the "New York Medical Journal."

Society Meetings for the Coming Week:

Monday, *December 5th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians (annual); Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *December 6th:* Kings County, N. Y., Medical Association; New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Herkimer (semi-annual—Herkimer) and Saratoga (Ballston Spa), N. Y.; Hudson, N. J., County Medical Society; Androscoggin, Me., County Medical Association (Lewiston).

Wednesday, *December 7th:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *December 8th:* New York Laryngological Society (annual); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *December 9th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *December 10th:* Obstetrical Society of Boston (private).

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 13 to November 26, 1887:*

Perin, Glover, Colonel and Assistant Surgeon General. Retired from active service, November 17, 1887, by operation of law. S. O. 268, A. G. O., November 17, 1887.

Byrne, C. B., Captain and Assistant Surgeon. Relieved from temporary duty at Fort McHenry, Maryland, and will return to his proper station, Washington Barracks, D. C. S. O. 242, Division of the Atlantic, November 11, 1887.

Walker, F. V., First Lieutenant and Assistant Surgeon. Relieved from duty at post of San Antonio, and assigned to duty at Fort Ringgold, Texas. S. O. 130, Department of Texas, November 8, 1887.

Smith, A. K., Lieutenant-Colonel and Surgeon. Assigned to duty as Attending Surgeon in New York city. S. O. 269, A. G. O., November 18, 1887.

Smith, J. R., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of Dakota. S. O. 269, A. G. O., November 18, 1887.

Horton, S. M., Major and Surgeon. Granted six months' leave of absence on surgeon's certificate of disability. S. O. 269, A. G. O., November 18, 1887.

Arthur, W. H., Captain and Assistant Surgeon. Granted two months' leave of absence, with permission to apply for two months' extension, to take effect on the arrival at Fort Niagara, N. Y., of Assistant Surgeon Paul R. Brown. S. O. 269, A. G. O., November 18, 1887.

Kean, J. R., First Lieutenant and Assistant Surgeon. Granted two months' leave of absence, to take effect about December 1st. S. O. 269, A. G. O., November 18, 1887.

Brown, Paul R., Captain and Assistant Surgeon. Ordered to Fort Niagara, N. Y. S. O. 270, A. G. O., November 19, 1887.

Skinner, John O., Captain and Assistant Surgeon. Ordered to Fort Ontario, N. Y. S. O. 270, A. G. O., November 19, 1887.

Richard, Charles, Captain and Assistant Surgeon. Ordered to post near Denver, Col. S. O. 270, A. G. O., November 19, 1887.

Carter, E. C., Captain and Assistant Surgeon. Ordered to Willet's Point, N. Y. S. O. 270, A. G. O., November 19, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending November 26, 1887:*

Rixey, P. M., Passed Assistant Surgeon. Ordered to the Naval Dispensary, Washington, D. C.

Nash, F. S., Passed Assistant Surgeon. Detached from duty at the Smithsonian Institution and ordered to Washington Navy-Yard.

OBITUARY NOTES.

Theodore Romeyn Varick, M. D., of Jersey City, N. J., died suddenly, on Wednesday evening, November 23d. The deceased was born in Dutchess County, N. Y., June 24, 1825. He was graduated from the Medical Department of the University of the City of New York in 1846. After practicing a little over two years in New York, he settled in Jersey City, where he soon entered upon a prominent and useful career. Dr. Varick was a surgeon of great experience and of striking originality. He was not a copious writer, but the occasional papers that he prepared, several of which have appeared in our columns, were all eminently practical and replete with sound sense. His manly qualities endeared him to those who knew him personally, and his loss will be acutely felt both in the profession and in the community in which he lived.

Letters to the Editor.

THE INFLUENCE OF THE CORSET ON THE BREATHING CAPACITY.

36 Weymouth Street, London, *November 16, 1887.*

To the Editor of the New York Medical Journal:

Sir: I have read with the most lively interest the excellent article on "The Corset," by Dr. Robert L. Dickinson, in your issue of the 5th inst. Having myself been engaged for many years in a crusade against stiff and unyielding stays of every description, I beg your permission to supplement some of the author's statements by a few facts, some of which have been already brought under public notice in my former writings, and more especially in "Voice, Song, and Speech," of which Mr. Emil Behnke is joint author with me.

There is, first of all, no doubt whatever that a woman's breathing capacity is seriously interfered with by stays, for we have time after time demonstrated, by means of the spirometer, that a woman who with a corset on will register, say 100 cubic inches, can, after removal of that pernicious garment, attain to an average of 130 to 140 cubic inches.

I also heartily agree that the diaphragm is, in the words of your author, "a muscle capable of developing to meet increased demands as much as any other that the athlete strengthens."* We have been in the habit of causing patients and pupils to undergo regular diaphragm gymnastics, with the result of developing their breathing capacity to a really wonderful extent. I may mention, as a case in point, that of a clergyman who had completely broken down in voice, and whose "vital capacity" was increased by two weeks' practice from 200 to 272 cubic inches. In cases of so-called functional loss of voice—often a premonitory sign of phthisis, and depending on insufficient motor (breath) power—similar exercises are of the greatest service.

Finally, I would emphatically indorse Mr. Walsh's opinion that "the agricultural woman who knows not stays breathes more like a man than the town female." I am, indeed, strongly inclined to think that the difference in the breathing of men and women is owing to the baneful influence of stays, skirt-strings, etc., continued through generations, rather than to structural differences. Nor is this with me merely a matter of conjecture, for Mr. Behnke and I have frequently had the opportunity of testing the breathing capacity of girls whose bodies have been allowed to develop in a natural manner, and, although they are no doubt still handicapped by the effect of inherited evil influences, yet their breathing capacity has invariably been considerably above the averages accorded to them, not only by Hutchinson, but also in the more recent tables by Charles Roberts, which are considerably higher. It is only fair, therefore, to assume that the female offspring of such girls in coming generations—similar conditions of physical education being observed in both sexes—is likely to have as great a breathing capacity as the male of corresponding height and age.

This matter might be put to a test even now if some scientific observer, having the opportunity of temporary sojourn among uncivilized nations, would provide himself with the few necessary instruments and give us the results of his experience.

Lennox Browne.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of September 23, 1887.

The President, Dr. Robert Abbe, in the Chair.

Double Stricture of the Rectum, caused by Plastic Exudation in the Pelvis.—Dr. C. B. Kelsey reported a case and exhibited the pathological specimen (see page 435).

Remarks upon Spina Bifida, with the Report of Four Cases.—Dr. L. E. Holt read a paper on this subject, and exhibited the pathological specimen from one of the cases (see page 519).

Spina Bifida.—The President reported a case and exhibited the specimen. A girl, ten weeks old, well nourished, showed no signs of a tumor until she was a week old. Three months before the birth of the child the mother fell, striking the lower part of her back on a chair. To this fall she attributed the deformity of the child. The tumor, which was situated on the lower lumbar vertebra, measured five inches across by three inches in vertical diameter. It was translucent and covered with tense, shining skin. As it seemed ready to burst, four ounces of fluid, which was transparent, colorless, and contained sugar, were withdrawn. Four days later, the tumor having refilled, the same quantity of fluid, which was this time of a faint straw-color, was again aspirated. It was judged that the tumor had contained about twelve ounces.

On September 24th, four days later, the tumor was again tense and highly distended, the skin having become reddened and thickened. Half an ounce of fluid was withdrawn, and a drachm of Morton's fluid injected. No reaction or shock followed. The child was kept in a horizontal posture with her face upward. For three days following she did not nurse well, but, beyond being restless, did not seem ill.

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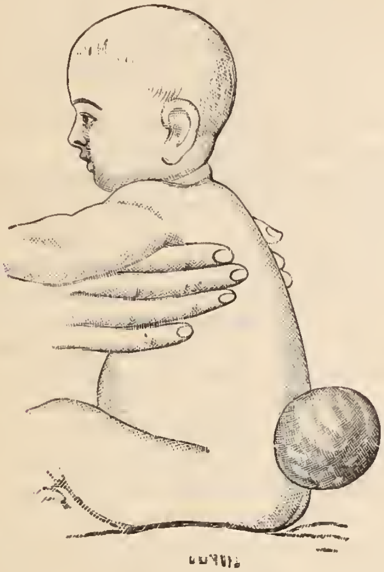
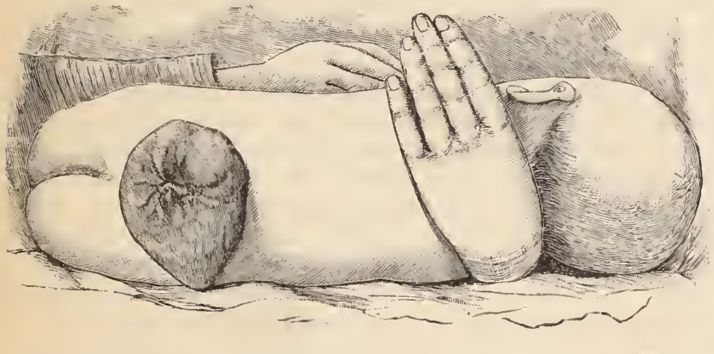
* The most noted example that I ever saw of this was in the person of the late Jules Perkins, the eminent bass singer and a native of Boston, Mass. He was a pupil of Lamperti, of Milan, so well known as an advocate of deep breathing for the purposes of singing.

On the 28th the child, when seen, was restless; crying and trembling when handled, but comparatively quiet when left alone. The sac was now decidedly shrinking, and its walls had become greatly thickened. The tumor was hot and the child's temperature 106° F. Ice-cloths were ordered to be applied to the tumor and the spine.



On the 29th the same improvement was manifested. The sac had become smaller and quiescent, while the child nursed better, and its temperature was 103°.

On October 1st (the seventh day) the child was worse. Spinal irritation was well marked, the trunk being rigid, the head thrown back, and the eyes deflected to the left. There were slight tremors from time to time. The sac appeared in good condition, and the fontanelles were not too full. Ice-cloths were ordered to be applied to the head and the spine.



On the 2d the child's temperature was low, the skin was cool, the pupils were small and did not react, and there was an increased apathy, amounting to semi-coma. The tumor, if anything, had shrunken a little. The child did not nurse much, but it had no spasms or tremors.

On the 3d the child died quietly. The tumor, *post mortem*, was found occupying the upper sacral vertebra, and containing two major cavities, one on either side. These cavities were connected with the spinal canal, and were lined with the dura. The central part of the tumor, into which the fluid had been injected, was filled with pus. The suppuration extended to the lateral cavities, where the fluid was less purulent. The cord spread out after entering the cavity, and then passed into the median line. The central canal of the cord contained some pus. This specimen illustrated the risk of injecting Morton's fluid. The operation had been performed under antiseptic precautions.

Dr. G. M. Tuttle had seen, in Bellevue Hospital, a similar case, in which a cure was said to have been effected. A large tuft of hair had grown over what had been the site of the tumor.

Dr. Holt also had seen a similar case, in which the patient had recovered. Over the tumor there was a small abscess. After the abscess was opened, the whole sac contracted and healed. Six months later, the child having died of some other affection, the above-mentioned state of things was confirmed by an autopsy.

Regarding the growth of hair in cases of spina bifida, it was common in simple cases of fissure of the spinal cord without any tumor.

Multiple Peripheral Neuritis of Alcoholic Origin.—Dr. Tuttle reported two cases which he had recently observed. Both presented the typical symptoms of multiple peripheral neuritis, but their chief interest lay in the profound effect of the alcoholic poison upon the central nervous system.

The first patient, a married woman, aged twenty-nine, was admitted into the New York Hospital on August 7, 1887. She had used alcohol in various forms immoderately for four years, and for two or three years had manifested symptoms of chronic nephritis. Two weeks before her admission she began to vomit all food, she had marked fever, and both feet and legs began to swell and to show loss of muscular power, especially in the muscles of the anterior aspect of the legs, causing both feet to drop and turn inward. There was also excessive tenderness to pressure, not only in the muscles of the legs and thighs, but also in those of the arms and trunk. The patient rapidly lost power, lying helpless in bed, and soon passed into a condition of low muttering delirium. The urine and fæces were passed involuntarily. When she was admitted into the hospital her condition was one of great prostration. She had the appearance of a person suffering with delirium tremens. Her tongue was brown, dry, and tremulous. Her rectal temperature ranged from 99° to 102°, the surface temperature being uniformly 98·5°. Both legs and feet were somewhat œdematous, but at the same time much emaciated and atrophied. The feet were extended and rotated inward, and the power to move them was gone. Both hands dropped at the wrist, and the grasp was very feeble. Pressure over the nerves, especially the sciatic and the musculo-spiral, gave excruciating pain. The superficial reflexes, especially the plantar, were delayed, but greatly exaggerated. Areas of anæsthesia and hyperæsthesia were noted on the legs. The knee-jerk was absent. Electrical examination, with thirty-six cells, showed degenerative reaction of the peroneal muscles, with normal reaction in the extensors of the toes on both sides. Subsequently pressure-sores developed over the left external malleolus and over the right trochanter. The patient complained of dimness of vision, and ptosis of both upper eyelids was noticed. Examination with the ophthalmoscope showed the outlines of the optic discs poorly defined, with cloudiness at the papilla.

At the end of a month the fever was gone, the intellect was clear, the hyperæsthesia had disappeared, and the patient had regained considerable power, so that she could extend the hands in a line with the forearms. Control over the sphincters also returned, and from this time on improvement was rapid, although, when she was discharged from the hospital, at the end of two months, the feet were still extended and the patient could not stand.

The second case presented an almost exactly analogous series of symptoms, but the patient died at the end of about three months from the onset of the disease. An autopsy could not be obtained. A reliable history of the abuse of alcohol was wanting in this case.

Dr. Mills remarked that there were three classes of cases of alcoholic origin, which were liable to be mistaken for one another. In one class the spinal cord and brain were involved; in another class the spinal cord alone was affected; in the third class the peripheral nerves only were the seat of disease. The differential diagnosis between the two latter was extremely difficult, but great stress was laid upon the tenderness along the course of the nerve trunks as pathognomonic in cases of neuritis. The rapid recovery of the patient in one of the cases reported by Dr. Tuttle would not favor the diagnosis of multiple neuritis, as recovery was usually slow.

Persistent Consolidation after Pneumonia.—Dr. Tuttle mentioned a case of persistent consolidation of the lung after pneumonia in a man forty years old. During a period of eleven weeks, for which time the case was under observation, the lung showed no changes of physical signs. The patient was free from symptoms, there being no cough nor expectoration. The temperature, observed very carefully, showed no fluctuation whatever. Though the physical signs remained the same, the patient's general condition improved, and he even gained in weight. The lung had been aspirated several times, but no fluid could be obtained.

The President had seen a case of persistent consolidation of a lung in a syphilitic patient. Under the administration of iodide of potassium the consolidation was rapidly cleared up.

Dr. H. M. Biggs mentioned a case that had presented all the physical signs of a consolidation of the lung. The lung had been aspirated several times without result. At the thirteenth aspiration, however, fluid was obtained.

A Supernumerary Arm.—Dr. Frank Hartley mentioned the case of a boy, ten years old, who presented an entire third arm on the right side. The scapula of the supernumerary arm, however, was wanting. The parents were healthy, and were not consanguineous; yet, of the other children, one had a mole, another had Pott's curvature of the spine, and the third showed the remains of a spina bifida.

Spinal Concussion.—Dr. W. G. Thompson related the history of the case of a man, twenty-five years old, a clerk, of temperate habits, who was admitted into the Presbyterian Hospital on September 17, 1887. Five weeks previously, while in perfect health, he had met with a railway accident, in which he was violently thrown against the right arm of his own seat, striking the right side of his back. He was rendered unconscious for a few moments, and could not articulate distinctly for an hour. He suffered great pain over the seat of the injury for several days. There was loss of power in the right leg, with partial loss in the left leg. Both arms were paralyzed. He urinated involuntarily, and the urine contained blood. He denied having been bruised anywhere, except upon the right side and the right lumbar region. He recovered the use of his left arm in a few days, and shortly after the use of his left leg. The urine remained bloody for two or three weeks. The patient thought that it contained small blood-clots. In addition to the paralysis, there was a corresponding loss of tactile sensibility; there was also a marked sensation of cold in the right leg. During the five weeks which had elapsed subsequent to the accident, there had been a gradual improvement. At the time of his admission into the hospital there were perverted sensation and anæsthesia over the right leg extending upward over the right side of the back to the upper limit of the distribution of the second lumbar nerve. No tenderness was discovered over the kidneys, nor over the upper part of the spine; but a positive soreness was felt over all the lumbar vertebræ, most marked over the third. An apparent prominence over the fourth had appeared since the accident. Control over the sphincters of the bladder and rectum had returned. The urine was normal. Three days later there was a marked improvement in the movement of the right leg, with a slight diminution of the anæsthesia.

Dr. Starr thought the case might come under the head of hysterical paralysis following an injury.

Black Measles, followed by Gastric Ulcer and Fatal Hæmorrhage.—The President reported a case of this character (see page 486).

Profuse Hæmatemesis from a Gastric Ulcer (?).—Dr. W. B. Anderton related the history of the case of a lady, aged fifty-five, whose family and personal history threw no light upon the case. She had always had good health, and been temperate in her habits. The menopause occurred eight years ago. When first seen, she had just vomited for the first time. The ejecta contained two small blood clots and some undigested food, the latter of which she had eaten an hour previously. The emesis had been preceded by nausea, but not by pain. A physical examination showed the patient to be well preserved and not cachectic. The heart, lungs, liver, and spleen were normal, and so was the urine. There was no evidence of a gastric tumor, but pressing deeply over the epigastrium caused pain. Morphine was administered hypodermically and bismuth given by the mouth. An enema brought away a small quantity of coagulated blood. No unusual symptom occurred until the third day, when she vomited a large quuanty of blood. Half an hour later she was colorless, the pupils were dilated, and she was bathed in a profuse cold, clammy sweat, while her pulse was exceedingly feeble and rapid. She was very restless and complained of great thirst. Morphine and ergot were given hypodermically, the head was lowered, hot bottles were applied to the extremities, and an ice-bag was placed over the epigastrium. Reaction soon took place, and there was no return of the vomiting. The next day she had several large, tarry movements. Rectal alimentation was strictly carried out. The patient made a good recovery. Two years later she was in good health and there had been no return of the vomiting.

Dr. Biggs said that in these cases the hæmorrhage usually came from an artery. In one case of sudden fatal hæmorrhage that he had seen, one of the small arteries of the gastric mucous membrane was filled with a clot. In another case, in which there were no premonitory symptoms, the patient, a young man, was seized with a severe pain, which was followed by symptoms of general peritonitis. The patient died within thirty-six hours. At the autopsy, a large ulcer was found, which had perforated the mucous membrane and caused the peritonitis.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 26, 1887.

(*Concluded from page 611.*)

Injuries of the Fœtus during Labor.—Dr. Parvin's paper having been read, Dr. W. T. Lusk, of New York, said that, while we should exercise charity toward those under whose care these accidents might happen, at the same time we should, as scientific men, look upon this record as most humiliating, and ask ourselves if we should exercise this charity toward ourselves as individuals, if these accidents fell to our lot. There might be one or two matters which had been overlooked by the author, or which it might be well to make more emphatic. In speaking of fractures of the skull occurring in spontaneous deliveries, cases which occurred many years ago had been given. In modern times reports of fractures in head-presentations terminating without the intervention of art were very rare. The speaker's attention had been called to one such case reported by Veit. The patient had received large doses of ergot. When the child was expelled it was found that the right parietal bone was separated from its fellow, from the occipital, and, to a great extent, from the frontal bone, and two fractures were found in the bone itself. It was a question whether the cases of spontaneous fracture reported many years ago were due to the abuse of this certainly most unreliable drug. During the last summer he had seen a very interesting case of depression of the skull following a rather easy forceps delivery, having been sent for because the question had arisen between two practitioners as to the advisability of trephining the skull, introducing an instrument, and elevating the depressed bone. He was not sure that this might not be good practice in some instances, but so far we had had no experience as regards results. We knew that if the child showed no immediate symptoms from the depression it was likely to thrive, and that in time the depression nearly or entirely disappeared. In the case referred to it was decided to wait, and the child had been thriving since, but there was still a quadrilateral depression in the frontal region which had not entirely disappeared. The speaker had felt quite certain that the mother had a contracted pelvis with projection of the promontory, but, on making an examination some three or four weeks after the birth of the child, to his surprise he had found that the woman had a fairly roomy pelvis. The antero-posterior diameter measured at least three inches and three quarters. The only conceivable cause of the depression was the blade of the forceps. This was to him certainly a novelty.

With reference to the amount of force which might be exerted on the neck of the child, if we relied upon the experiments to which reference had been made, we were likely to be led into error. There was no doubt that the resistance of the neck under pressure varied greatly in different subjects. While the neck of one child would bear a weight of 160 pounds, the vertebræ of another would separate under a much less amount of tension. He did not believe that there were ever circumstances in which such an enormous pressure as 160 pounds should be exerted. If the after-coming head was retained by tonic retraction of the womb, such traction force must tear through the cervical tissues. If the head was retained by the brim of the pelvis, it was nearly certain that the child would be still-born when the necessity for such an amount of force existed. It was a question whether we should ever use much force in pulling on the child—whether, indeed, the head could not better be shoved through the pelvis by suprapubic pressure, in the manner described by Dr. Goodell and Dr. Taylor.

There was one injury to the child which he did not think had been particularly referred to by the author—dislocation of the occipital bone, which sometimes occurred. In the case of a flattened pelvis, where the head entered in the transverse diameter, it would sometimes happen, where the forceps was used, that the pressure of the blades bore directly upon the forehead and upon the occiput. This would be tolerated for a certain length of time. but, when continued, the pressure ultimately affected the medulla oblongata. It was then difficult to get the child to breathe, the respiratory sense being destroyed, and often the child was born dead as the result of such pressure. It was always well to be careful that, when the blades of the forceps could not be applied to the sides of the head, they were applied in the oblique diameter.

With reference to fracture of the clavicle, it sometimes happened that this injury was due to direct pressure; more frequently, according to Ruge, it was due to the introduction of the hand into the vagina to bring down an extended arm. If the pelvis was small and the vagina rigid, and there was insufficient room for the hand, as the result of pressure upon the shoulder, the clavicle was apt to bend like a bow and break in the middle.

In a well-conducted labor the arms should not become extended above the head. In cases where this did take place the directions were given to draw on the elbow and push the arm over the face, but where the space was small one could not always press the arm around the front of the face in the limited time required to extract the child alive. In these cases he thought it justifiable to break the arm to accomplish delivery. Cases of true dislocation were probably exceedingly rare; at least we had no evidence of cases where the lesion had been demonstrated by dissection, but separation of the epiphysis closely resembled dislocation backward or forward, and, until dissections were made, dislocation had been considered a common accident. One or two points in regard to separation of the epiphysis were of interest. As a consequence of this fracture, Küstner had shown that the cartilaginous portion of the bone was rotated outward by the action of the infra-spinatus, the supra-spinatus, and the teres minor muscles, while the shaft was rotated inward by the pectoral muscle, the latissimus dorsi, and the teres major. If the position of the arm was not rectified and union was allowed to take place, the movements of the arm would be more or less affected. Both external and internal rotation could then be accomplished only to a slight extent. Separation of the epiphyseal end of the humerus closely simulated paralysis, and some recent writers had gone so far as to assert that all cases of supposed paralysis of the arm were really cases of this injury. This was, however, not the case. Last summer he had attended an excitable primipara, who early in labor passed into a maniacal condition, which made it necessary to keep her anæsthetized. After the chloroform had been given for two or three hours, the cervix was partly dilated, and, not wishing to continue its employment, for the immunity which attended its use in labor did not apply to its prolonged administration, he put on the forceps before dilatation was complete, and with considerable difficulty extracted the head through the cervix, the vagina, and the vulva. The perinæum did not tear, but, the moment the head escaped, the vaginal orifice closed down tightly on the neck of the child, and he was compelled to introduce two fingers into each axilla to complete the delivery. After the birth one arm was found to be paralyzed. As he knew such cases had recently been asserted to be cases of epiphyseal separation, he examined the arm with great care, but failed to find the slightest evidence of fracture. There was no pain. There were no evidences of brain disturbance, although the pressure of the forceps had been continued for a long time. The galvanic current was applied to the arm, frictions were employed, and it was kept warm, and in about ten weeks the child began to move it, though recovery was still far from complete. In regard to extraction in breech cases, it was nearly impossible, where the arm had been bent behind the neck, to extricate it without fracture. Then why not fracture the arm? Was the physician responsible if this accident occurred as the result of efforts to release the member? He would say No, but he was responsible for the displacement of the arm behind the head. If he left the body alone and did not twist the trunk, the arm would not remain extended. The child did not flex its arm spontaneously and place the forearm underneath the occiput.

There was a case recently reported by Engelbach which he would add to the list of accidents. In this case the child was born with an enormous swelling of the scrotum, due to an effusion of blood into the tunica vaginalis of each side.

The speaker had taken some interest in the questions connected with the extraction of the breech when both extremities were reflected upward, and he wished to reiterate what he had said two or three years before with reference to the use of the forceps to the breech. In a recent brochure Küstner had condemned this method, but confessed that he had never tried it. Everybody knew that, in the exercise of the usual method, a person with strong fingers was capable of exerting a great deal of force, which bore to a great extent on the sacro-iliac synchondroses, and under these circumstances rupture of the sacro-iliac joint was likely to take place—a rupture which might be followed in after-life by the development of the Nägele deformity. The application of the forceps to the breech was easier than a person who had uot tried it would suppose. He spoke of cases where the breech had reached the floor of the pelvis. Here it was not necessary to use a great deal of force. If the breech was brought down to the perinæum and then allowed to recede, and this was continued until physiological softening of the pelvic floor and perinæum took place, a very moderate degree of force was enough. He thought that the use of the forceps under these circumstances was attended with less risk to the child than the employment of the fingers or the blunt hook. He had succeeded with the forceps in three cases where the fingers had been used in vain.

Dr. E. **Wilson** had been glad to hear the last speaker condemn the use of great force in delivery by forceps, or by traction in cases of breech presentation. With reference to the application of the forceps to the breech, he had participated in but one case where such application was made. This was a case of first labor, and the physician had applied the forceps to the breech on the supposition that it was the head. As the labor was progressing satisfactorily and safely, cautious traction was made with the forceps, and the labor terminated without injury to the mother or the child.

Dr. H. **Leaman** thought that the presentation of this subject had been opportune. He believed that we were entering upon a new period with reference to the subject of labor. We were passing out of the instrumental, or what may be called the obstetric period, and into the gynæcological period, which was essentially physiological. The careful studies of gynæcologists had forced upon obstetricians the careful use of instruments. Some of the injuries referred to he had seen. In his early practice he had been unfortunate enough to fracture the inferior maxilla, but that had been the only case in a practice of twenty years. He had seen the clavicle broken, and he had seen paralysis. He had recently had a case of facial paralysis, which was due to the fact that the sacrum was greatly curved, the coccyx being movable. The presentation was vertex left front, but the head was held from complete rotation by the deep curvature of the sacrum. This was overcome without difficulty by the application of the forceps. The instrument was then removed, and the labor allowed to proceed. The caput succedaneum was on the right parietal region, while the paralysis was on the left side. This passed off in the course of six weeks. The injuries referred to are rare, and he believed that they had been necessary in the course of events. It was to be hoped that they might in great measure be prevented in the future. There was one injury, not mentioned, which he was satisfied existed to a greater extent than any referred to. He believed that too much haste in delivery and in tying the cord often caused non-closure of the foramen ovale. The whole idea in the instrumental, or obstetric, period had been to get the child out. He had made a number of post mortems in the case of children, and had too frequently found the foramen ovale open. Many of the nutritive diseases of childhood were doubtless due to malnutrition resulting from a persistent foramen ovale.

Dr. **Wharton Sinkler** said that a very large proportion of the paralyses that he had met with in infants had followed instrumental or prolonged and difficult labors. The most frequent form was facial paralysis, either unilateral or bilateral. This generally resulted from the pressure of the forceps upon the facial nerve or upon the mastoid process. It might, however, result simply from the impaction of the child's head in the pelvis without the use of the forceps. Hemiplegias were often met with in the newly born as a result of the use of the forceps. A few days ago he had seen a child with right hemiplegia, and the mother stated that she had been delivered with the forceps, and that immediately after birth there was a deep depression behind the child's left ear. He found upon examination of this child, who was now sixteen months old, that a depression still existed in the left mastoid process. There was right hemiplegia. The right leg was spastic and the movements of the arm were limited and inco-ordinate. Spastic paralysis and what was sometimes called double spastic hemiplegia very frequently occurred in children who had been born by the breech. These conditions generally persisted during life and were associated with a feeble condition of the intellect. The author had referred to injuries to the sterno cleido-mastoid muscle. The speaker had seen cases where the child had lost power in all the muscles of the neck so that it was unable to support the head. In some of the cases delivery had been by the breech and considerable traction made. Some had followed delivery with the forceps, perhaps from pressure on the spinal accessory nerve, or perhaps from extravasation of blood. In a case of paralysis following difficult or instrumental labors, the lesion was often an extravasation of blood over the motor convolutions, a meningeal hæmorrhage. If the amount of the extravasation was great, the prognosis was, of course, bad, but in some of the cases, especially where there was paralysis of one arm alone, the child entirely recovered the use of the limb; and in facial paralysis recovery as a rule occurred in a few days, but the condition might persist during life.

Dr. C. B. **Nancrede** thought that the treatment of injuries of the soft parts was too often left to the nurse, who either did nothing or did that which ought not to be done. It had recently been shown that even the slightest injury of the scalp might end in periostitis, inflammation of the sinuses, meningitis, encephalitis, and often pyæmia. The prompt carrying out of antiseptic precautions greatly reduced the mortality from such injuries. Although in these cases certain forms of antiseptic dressing might be impossible, the principle of antisepsis was easily carried out in many ways. Here, of course, the Lister dressing or the application of any irritant or poisonous substance was out of the question. But we might use boric acid freely, and it had the special advantage of being a dry dressing.

Depression of portions of the bones of the skull without fracture was readily understood when we studied the anatomy of the bones usually broken—viz., the parietal, the frontal, the occipital, and the squamous plate of the temporal. Ossification proceeded from the center in ray-like projections of bony fiber which, near the free edges of the bone, readily admitted of various new relations to one another without actual rupture of the osseous fibers. He believed, however, that fractures were more common than was generally supposed, but that they were not noted, because the break was usually a simple fissure or because it was concealed by a marked "caput" or cephalhæmatoma, since such injuries were usually met with after hard or instrumental labors. He would call attention to the fact that simple fracture of the skull was in itself of no consequence. The injuries to be feared were those done at the same time to the subjacent tissues by the force which produced the fracture. If he ever saw a case in which he was convinced that paralysis was due to depression, he might trephine. The recently published statistics that seemed to indicate that trephining under antiseptic precautions was entirely without danger were not to be relied on, and, while he was a thorough believer in antisepsis, he must call attention to the fact that, as inflammation of the membranes or brain might occur from injury without any break of the cutaneous surface whatever, it might occur after and because of trephining, despite antisepsis. Trephining could not remove many of the conditions referred to by Dr. Sinkler, which were the real sources of danger, such as effusion of blood upon the surface of the brain or in the arachnoid. Fractures producing epileptic seizures, etc., later in life, were rough fractures where projecting spicula or rough edges impinged on the brain or membranes; and such fractures—except perhaps, very rarely, projecting rough edges—could not occur in the infant skull, which was devoid of an internal table, from the shattering of which, in fractures in adults, secondary nerve trouble resulted. In the skull at birth the articular eminence which kept a dislocated adult jaw from returning to its normal position was practically absent, so that a dislocation of the jaw could not be produced unless the force was sufficient to tear the soft tissues surrounding the articulation, giving rise to a compound dislocation. If the force applied was less than this, as soon as its application was suspended the jaw returned to its normal position.

He believed that fracture of the long bones during labor was not very common, but that separation of their epiphyses was, for their union with the shaft was effected at this time only by the periosteum and soft cartilage. It had been shown that a few pounds' weight exerting cross-strain would cause the separation, while six times the weight applied by direct traction would produce no injury. He did not believe that the injuries reported as dislocations were dislocations; they were separations of the neighboring epiphyses or pathological displacements. Any one accustomed to dissect the body of the new-born child knew how readily such separations were produced. No one had ever been able to produce a luxation in an infant's cadaver, because of this ease of separation of the epiphyses. Dr. Lusk had described a case of separation of the upper epiphyses of the humerus which produced a peculiar displacement. Probably in this case all the epiphyses of the proximal end were together separated from the shaft. He would advise, in the reduction in a similar case, the method proposed by Dr. Moore, of Rochester. In the treatment of fractures of the fœtal humerus, a friend of the speaker's had had good success by fixing the whole upper extremity in a straight position with a molded splint. Fractures of the femur were more difficult to manage. Here sheet vulcanite, which could, by softening in hot water, be accurately molded to the limb, had better be used, because it would absorb neither urine nor fæces. An anterior splint should be made which would extend well up over the abdomen, and a posterior splint to reach from the buttock well below the knee, thus fulfilling the important indication of fixing the joints above and below the fracture. It only required ten or twelve days for firm union to occur.

In speaking of torticollis, the sterno-cleido mastoid muscle had alone been referred to. It was possible that in some cases this was the only muscle at fault, but in most instances several other muscles, such as the trapezius and the scalenes, were involved. He had seen instances of injuries to this muscle in the newly born, but had never traced the cases in later life. Again, in a recently treated case of so-called congenital wry-neck, absolutely no history of injury during labor could be elicited.

Dr. W. Goodell presented for inspection a specimen of firmly united fracture of an infant's humerus, of which he was not ashamed, but rather proud; for by the fracture he had saved the child's life. It was a case of breech presentation, where the heart's action was failing and the ominous convulsive movements of the child were giving out, which indicated the near approach of death. The arm was up alongside the child's head, and, if he had had more time, he could have brought it down without injury; but every second was precious. So he snapped the arm, and quickly extracted a living child. It died a few months after of cholera infantum, and the mother, knowing his interest in the case, had allowed him to obtain the specimen. He had reported elsewhere a unique case, where fracture was produced by the maternal forces. The vertex presented, the pains were strong, the passages were ample, but the head did not descend. Suddenly, during a very severe pain, a hand shot out of the anus, without tearing the perinæum. While he was gazing on it in amazement, another pain suddenly took place. There was an audible snap, the hand as quickly disappeared from the anus, and the child was born with a fracture of the clavicle. The rent in the vagina was sewed up, and the fracture dressed with adhesive strips. The vaginal wound healed perfectly, and the child recovered without deformity. This remarkable accident he attributed to the arm being thrown across the nucha. The protruding hand perforated the vagina, and was button-holed there. Then the advancing body forcibly dragged the arm down the back of the child, and the clavicle was fractured by the twist or strain it got.

In a case seen with Dr. James F. Wilson, fracture of the clavicle, and of the skull also, occurred. It was an exceedingly difficult case. The woman had been delivered in her first labor by craniotomy by Dr. Wilson, in conjunction with the late Dr. Parry. In this, her second labor, after using the forceps ineffectually, turning was performed, and delivery effected in a very few minutes by vigorous traction and by very great pressure from above. The fractures were caused by the projection of the sacro-iliac promontory. The child recovered perfectly.

The speaker had repeatedly seen facial paralysis, but in instrumental labors it had occurred only when the blades of the forceps were not applied exactly to the sides of the child's head. Dr. Parvin had spoken of the child living a few hours after the performance of craniotomy. It was to such an occurrence that we owed the travels of Mungo Park, who was a physician, but who, early in his professional career, was so disgusted by this accident that he gave up practice. In his case the infant lived to manhood. With regard to head-last labors, the speaker had tried to extract the breech by the use of the forceps on the buttocks, and had succeeded with it, but it was apt to slip off. He therefore always brought a leg down in breech cases, and then he had command of the situation. The force of traction which the neck would bear was uncertain, and doubtless varied greatly, but he believed that the man who, in trying to save the child, broke the most necks, saved the most children, and he respected him accordingly. Such labors were always very dangerous to the child; the percentage of deaths was a very large one. He looked on a child presenting by the breech as a child drowning, to which help must be sped—help at all hazards. It was emphatically a case of "neck or nothing," and we must not sacrifice the life of the child to any sentimental considerations about breaking its neck.

One point that perhaps did not come strictly under injuries to the fœtus, but might be considered here, since it caused the death of the fœtus, was pressure on the cord, prolapsed or wound round the neck, by one of the blades of the forceps, and especially by the occipital one, when the blades were not applied exactly to the sides of the head. He was sure this had occurred at his hands. An annoyance in cases of face presentation was the subsequent unnatural position of the child, which for days would lie with its head greatly extended, though it ultimately took the natural position.

Dr. D. Longaker wished to speak of injuries to the soft parts of the head, from the application of the forceps and from pelvic deformities. He had reported a case where, after premature delivery with the Tarnier forceps, through a rhachitic pelvis with a conjugate diameter of three inches, there was a rather clean-cut contused wound in the left anterior parietal region, which he was morally certain was not made by the extremities of the forceps, but occurred when the head suddenly slipped through the narrowed conjugate diameter. Then there were wounds caused by faulty construction of the forceps, particularly an excessive cephalic curve, which brought the distal extremity of the blades into close apposition. He had seen one cut and several severe bruises produced in this way. A peculiar parchment-like condition of the bones of the fœtal head was sometimes observed, especially of the parietal bones, and he had seen it so marked that he was able to diagnosticate it through the abdominal walls, but had never known it to lead to fracture. Fracture of the long bones had only occurred in his experience where the difficulties in the delivery of a living child had been insurmountable. He had seen one case of separation of the epiphyses of the humerus, in a very large child which was dead when born; and one fracture of the femur from the application of the fillet, this being also in a difficult extraction of a dead child. He fully agreed with Dr. Leaman as to the injury of tying the cord too soon. The researches of Budin had fully shown this. He thought we ought to lay down the definite rule that the cord should never be tied until it was flabby, pale, and pulseless. It had happened to him also to compress a loop of the cord in the application of the forceps. He was glad to learn that Dr. Goodell succeeded in converting face into vertex presentations by the introduction of the hand, but if we failed in this we produced an early rupture of the membranes with all its undesirable effects. For this reason the method of Schatz, of Rostock, was to be preferred.

Dr. B. Lee said that there were very few cases of hemiplegia or paraplegia, as they came to the orthopædist, which could be traced back to injury received at the time of birth. When he spoke of the orthopædist he did not mean a physician who had frequent opportunities of seeing infants within a week of birth, but one whose patients came to him ordinarily at five or six years of age. The rarity of these instances in his experience might be due to the fact alluded to by a previous speaker, that the fœtus was simply a gelatinous mass, and therefore little susceptible of injury; but he had been rather inclined to attribute it to the prudence, skill, and caution of the obstetricians. He was entirely in accord with the opinion already expressed that, when lesions of the nervous system could be traced back to parturition, they were irritative rather than paralytic in their character—of the nature of spastic paralysis or spastic contractions. Such cases were usually incurable, and generally accompanied by a certain degree of mental deficiency. But he believed that the majority of these children were either so completely spoiled that no doctor ever had a chance to do anything for them afterward, or that the lesions were transient, as in facial paralysis, and were entirely recovered from in infancy. In the little Yankee town in which the distinguished guest of the evening and the speaker had played together as boys there used to be a slang phrase in vogue among the boys, which he doubted not he would remember—"Push, and if you can't push, pull," indicating, in a rude way, the fact that force might often be exerted more effectively by pressure than by traction. Now, if he might venture to leave a thought with the obstetricians present, it would be that they should depend less upon pulling, and rely more upon nature's plan in the expulsion of the fœtus—pushing, or pressure.

Dr. H. C. Wood said that the remarks of the last speaker had been entirely contrary to his own experience. We did not see hemiplegias and paraplegias due to injury during labor, in children of five or six years, simply because children so injured never lived so long. What we did see were the cases of spastic paralysis. Spastic paralysis was the secondary effect of an earlier destructive lesion, the immediate evidences of which might have been entirely overlooked. In all such cases presenting at his clinic he inquired as to the history of the labor, and invariably found that it had been unusually severe or instrumental. The brain at birth was so soft, so liable to injury, that, while he would not have the obstetrician entirely discard the use of the forceps, he thought he should never take it in his hand without bearing in mind the possibility that it would do serious permanent injury to the nerve-centers of the child.

Dr. W. H. Parish said that, though Dr. Wood was no obstetrician, he talked like a very sensible one. The speaker believed that the forceps in proper hands saved the lives of many children, but where improperly used it not infrequently sacrificed the child's life and led to subsequent harm. Its application at the superior strait was, under some conditions, exceedingly dangerous to the child. Last year he had seen a laceration of the child's perinæum extending from the vulvar orifice clear through to the rectum, produced evidently by the tip of one blade of the forceps, which the practitioner had attempted to apply to an unrecognized breech. He recalled the case of a robust Irish woman at the Blockley Hospital, who had borne five or six healthy children. Labor was delayed, and ergot was freely and, of course, improperly given, in his absence, until the contractions came on with unusual force. The child was speedily expelled, but died in a few minutes. At the autopsy he found that the principal lesion was a separation of the lateral, or articular, segment of the occipital bone, which was pressed in upon the medulla, doubtless by the excessive contractions produced by ergot. Recently a friend of his had seen in consultation a child which had presented by the breech, and whose scrotum had become considerably distended from œdema; the medical attendant, mistaking the scrotum for the bag of waters, had cut it open and cut into the testicle.

Dr. J. Price desired to call attention to the fact that the Simpson forceps probably made less compression of the head than any other form in use. As to the frequency of separation of the head and trunk by traction in head-last labors, he knew of two cases in which it had occurred this summer in Philadelphia. In one the patient died after Cæsarean section for the removal of the head; and the other died and was buried with the head still in the cavity of the uterus.

Dr. J. L. Ludlow said that when he was a student Dr. Hodge taught that the forceps should be applied only after careful deliberation and consultation. Since then the forceps had come into more common use, and there were certain practitioners who, if labor did not terminate in a certain set time, would always apply it, and who thus got a reputation for quick delivery, and drew patients. The obstetrician needed a great deal of patience, and great injury was often done by want of it.

Dr. Parvin said that the reason obstetric paraplegia was not seen at six or seven years was that such paraplegia was caused by rupture of the spinal cord, connected with fracture of some portion of the vertebral column, and death followed very quickly, usually within a very few hours. As to the treatment of fractures of the femur in the new-born, he regretted that a gentleman present had not narrated a case of such injury to which several practitioners had been called. Their first effort was to extend the limb completely, in order to treat the fracture somewhat after the manner of treatment in the adult, but, finding their efforts vain, it suddenly flashed upon the minds of the surgeons and obstetricians that an infant did not have its lower limbs extended, and they resorted to a more rational method of keeping the ends of the broken bone in contact, and it was completely successful. He was not prepared to admit that dislocations of the humerus or femur could not occur in labor, because reputable observers professed to have seen them, though, of course, they were quite rare. He could not help regretting that some time had not been given to the discussion of the best method of extracting the head, especially in pelvic presentation or after podalic version. Was there not a better way to bring the head through a narrowed pelvic inlet than by the great traction upon the body which had been recommended? It seemed impossible to make that traction directly in the axis of the inlet, and hence much of it was lost, and therefore useless or injurious, force. Finally, the relation of protracted labor and forceps delivery to remote disorders of the nervous system, and especially to idiocy, probably had not elicited the consideration that its importance demanded.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 6, 1887.

The President, Dr. A. Jacobi, in the Chair.

The Modern Method of Treating Syphilis.—Dr. P. A. Morrow read a paper with this title. The modern method of treating syphilis, he said, differed in the mode of administering the remedy, not in the remedy employed, from the treatment of four hundred years ago. With the addition of iodide of potassium, mercury still remained the basis of all special curative treatment. The new mode of administering the drug hypodermically had not found much favor in this country, but it had been revived and was being considerably used in Europe. He had visited the hospitals at Paris the past summer, and there observed the method of using it and the results obtained, constituting in a sense personal experience with it.

In endeavoring to appreciate the therapeutic worth of the modern method of treating syphilis we were confronted by a mass of confusing clinical statistics, as well as contradictory statements on the part of the experimenters—some bearing testimony to its superior efficacy, others depreciating its value and condemning it as injurious and impracticable. A careful weighing of this clinical testimony, balanced by the author's own observation and experience, justified the following conclusions: 1. The hypodermic use of mercury, in simplicity, convenience, accuracy, rapidity of action, and the development of a maximum effect from a minimum quantity of the drug, constituted a decided improvement. 2. It was not so apt to cause salivation, gastro-intestinal disorders, and other toxic symptoms. 3. There was a remarkable unanimity of opinion among observers as to its efficacy in suppressing the active manifestations of the secondary stage, and hastening their involution. 4. The statements that the subcutaneous introduction of mercury increased its potentiality and widened the range of its specific action, enabling it to subdue not only refractory secondary lesions which resisted ordinary treatment, but also the tertiary lesions, might be considered as still *sub judice.* 5. The allegation of greater permanence of effect, preventing relapses and preserving the patient from manifestations of the diathesis for a long period, was not proved. 6. The more pretentious allegation that the hypodermic introduction of 25 centigrammes of the bichloride, or 40 centigrammes of calomel, cured syphilis, must be rejected as extravagant and absurd. 7. The irritant action of mercury introduced hypodermically, manifested in the production of pain and local accidents, rendered its general employment in the systematic treatment of syphilis impracticable. 8. The proper position of the hypodermic method in the therapeutics of syphilis was in the category of adjuvants. 9. Its employment was indicated when the necessities of the case demanded a rapid and intense mercurialization. In certain emergencies, when the integrity of an important organ was threatened, for example, its prompt and energetic action rendered it superior to other modes of mercurialization. 10. In exceptional cases, marital syphilis, for example, where the exigencies of the situation demanded secrecy in treatment, with the speediest possible suppression of the symptoms, this method was to be recommended. 11. It constituted a most excellent reserve method in cases where gastro-intestinal irritability was so marked as to forbid the introduction of mercury by the stomach. 12. In cases of tertiary syphilis, where an iodine idiosyncrasy was so marked that iodide of potassium could not be employed, hypodermic injections of mercury should be substituted. While his own impression was that the hypodermic method would never supersede the common modes of employing mercury, he regarded it as a decided acquisition to our therapeutic resources against syphilis—too valuable to be ignored or practically disregarded, as had been the case in this country.

Dr. E. B. Bronson agreed in the main with Dr. Morrow. About 1869 he employed mercury hypodermically, but had to give it up or lose his practice. The pain and accidents following the injections caused the patients to rebel against them. He had employed the bichloride mostly, with chloride of sodium in equal quantity.

Dr. R. W. Taylor's experience with the method had extended over about seventeen years. He now resorted to it only in special cases. He had given up its general use early, because the patients shunned rather than sought him. He had tried all the preparations, and had found the bichloride the best, an injection consisting of one eighth of a grain dissolved in ten drops of distilled water. The pain, swelling, etc., were great drawbacks to the method.

Dr. F. R. Sturgis gave his experience with injections of mercury in 1869–'70. The patients had vigorously protested and he had discontinued the practice.

Dr. L. D. Bulkley had not been able to convince himself that there was any advantage to be gained by substituting the hypodermic for other methods which had been tried and proved efficacious.

The President had used calomel injections, but would never do it again. Tumefaction and abscess had resulted. He had used injections of corrosive sublimate a great deal, and he had come to reduce the doses. In one class of cases he had employed them certainly to advantage, namely, cases of hereditary syphilis, with severe early lesions.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of September 20, 1887.

The President, Dr. William Wallace, in the Chair;
Dr. C. E. De la Vergne, Secretary.

The Treatment of Urethral Inflammation in the Male.—A paper on this subject was read by Dr. H. W. Rand (see page 619).

Dr. G. Wackerhagen thought that the treatment in the acute stage should be based entirely upon antiseptic principles. First, as regarded cleanliness, which was most important of all, he instructed his patients to take a hot sitz-bath every night and morning, to use frequent injections of a weak solution of bichloride, and to change the dressings frequently. For internal treatment he had found carbolic acid an excellent remedy largely diluted with gum-water, also bicarbonate of sodium with Vichy. He thought that the complications of gonorrhœa were generally due to excess of treatment, and the prolongation of the disease to the filthy condition in which these patients so often kept themselves.

Dr. E. A. Lewis said that there was no one disease for which there were so many different methods of treatment, and this lack of uniformity among physicians was due to the fact that each had his own pet methods of treatment. He did not think that physicians were careful enough in giving instructions to their patients, and it was due to the patients themselves, in a marked degree, because they considered the disease a very mild one, and did not follow the instructions given. One point of which he wished to speak was the time to give injections. It was the first time that he had heard the rule laid down as in the paper, and he believed it one that would bear commendation. It had been his custom not to use injections until the first inflammation had subsided.

Dr. William Anderson would like to ask Dr. Rand if he had found any statistics showing what would be the duration of this disease under the expectant treatment. He had begun to think that it was one of those self-limited diseases that would get along if it was let alone. In other diseases an effort was made to get at the real value of statistics. He was all at sea in regard to the treatment.

Dr. Rand said that it was difficult to get reliable statistics. To judge from the experience of the French, gonorrhœa, under treatment that was chiefly expectant, would not terminate in less than eight weeks. Bumstead said gonorrhœa left to itself rarely terminated in less than three months. Otis maintained that his patients recovered in four to six weeks without injections, or any internal remedies other than alkalies and diluents, but this included cases of simple urethritis. In cases prolonged beyond four weeks he would examine for stricture.

Dr. F. W. Rockwell remarked that he would like to make a correction. He did not think the author was right as to the time given—four weeks.

Dr. Rand thought he was not mistaken. Otis's words were, he believed, search for stricture should be instituted after four, or perhaps it was after six, weeks.

Dr. F. W. Wunderlich remarked, in regard to cases where injections had been kept up for a long time without giving relief, that he had found the use of the endoscope of great value; it enabled us to ascertain more accurately the seat and character of the lesion, and to make applications directly to the diseased parts.

Dr. H. L. Cochran said that, in speaking to one of the older members of the profession, he had asked him what his methods of treatment were, and he had been told that he put these patients on the use of full doses of tincture of conium, made fresh from the English leaf. He had also said that he kept them on full doses until they felt the physiological effect (of conium), or until the acute stage had passed. For injections he used ⅔ grain of chloride of zinc to the ounce of distilled water after the acute stage. The speaker had tried it in a few cases with fair results. The tincture of conium seemed to prevent chordee, and in some cases the discharge had entirely ceased in two weeks. He had met with cases that had resisted this treatment as well as any other.

Dr. Rand said that, in regard to warm injections, he had referred especially to their being given warm when used early in gonorrhœa. The most that the patient would generally do, in protracted cases, was to carry the bottle in his pistol-pocket, and consider the heat thus obtained sufficient. He had made no mention of the endoscope, although he frequently used it, because when it became of service to the patient he usually had some granulation patch or point of persistent ulceration in the urethra, and he had not intended to cover any of the complications or sequelæ of the disease. In reference to the use of lemon-juice, he believed that its injurious effects were due to the production of crystals in the urine that caused irritation during micturition. At all events, he had frequently had patients, in whom the pain on urination had entirely subsided, complain of its return after drinking lemonade.

Book Notices.

Pathology and Treatment of Ringworm. By George Thin, M. D. London: J. & A. Churchill, 1887. Pp. 7 to 87.

It gives us great pleasure to commend this excellent little treatise to our readers. It presents the whole subject in a readable style, and without padding. When we have read it we feel that we know the author's views on the subject, and that they are sound, because they are founded on intelligence and careful observation. The sections that treat of the fungous growth in cultivation media is described, the best media to be used are indicated, and directions are given how to make the cultivations. These sections are very fully illustrated with woodcuts, showing the growth of the fungus in various stages. Dr. Thin believes that the microphyton has no relation to other fungi, and that it is the sole cause of ringworm. He differs with Dr. A. R. Robinson in regard to the location of the spores in the rete mucosum and corium, as he has invariably found them in many microscopical sections between the hair-shaft and the inner root-sheath. It is proper to say that Dr. Thin's investigations were made in a case of ringworm of the horse.

The sections on treatment are practical, and the directions for carrying out the author's own methods are fully and carefully given. Other plans of treatment besides his own are discussed, and he gives an appendix describing the methods of Vidal, Lailler, and Besnier, as furnished him by personal correspondence. The book will be found very serviceable to all who are called upon to treat this disease of the skin.

The Diagnosis and Treatment of Eczema. By Tom Robinson, M. D., L. R. C. P. Lond., M. R. C. S. Eng. etc. London: J. & A. Churchill, 1887. Pp. 136.

The matter of this little book covers more ground than its title would indicate, and its author has attempted to give us a complete treatise upon eczema. We are sorry that we can not say that it is the best book we have read upon the subject. It contains much that is valuable, together with much that seems to us erroneous. Pityriasis rubra and sycosis are both considered by Dr. Robinson as forms of eczema. We are told that the edge of an eczematous patch is never sharp and distinct. In orbicular eczema the edge is sharp and distinct. Lupus erythematosus is regarded as probably a form of eczema, and it seems to us that the author has mistaken this disease for eczema when he speaks of a form of the latter which occurs upon certain regions of the scalp, and is always followed by permanent baldness. These are but a few of the statements made by our author that seem to us somewhat astonishing. That our Dr. A. R. Robinson should be spoken of as "Robinson, of Philadelphia," is not so surprising in the writings of a foreigner.

The treatment that is presented to us is meager. The chief value of the book is that it gives us the author's own views, which are very definite and stated without reserve.

BOOKS AND PAMPHLETS RECEIVED.

Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons, etc. The Drawings by H. V. Carter, M. D., Late Demonstrator of Anatomy at St. George's Hospital. With additional Drawings in Later Editions. Edited by T. Pickering Pick, Surgeon to, and Lecturer on Surgery at, St. George's Hospital, etc. A New American from the Eleventh English Edition. Thoroughly revised and re-edited, with Additions, by William W. Keene, M. D., Professor of Surgery in the Woman's Medical College of Pennsylvania, etc. To which is added Landmarks, Medical and Surgical. By Luther Holden, F. R. C. S., with Additions by William W. Keene, M. D. Philadelphia: Lea Brothers & Co., 1887. Pp. 1100. [Price, $6.]

Text-book of Therapeutics and Materia Medica, intended for the Use of Students and Practitioners. By Robert T. Edes, A. B., M. D., formerly Professor of Materia Medica and Jackson Professor of Clinical Medicine in Harvard University, etc. Philadelphia: Lea Brothers & Co., 1887. Pp. xi–17 to 552. [Price, $3.50.]

Surgical Pathology and Morbid Anatomy. By Anthony A. Bowlby, F. R. C. S., Surgical Registrar and Demonstrator of Surgical Pathology at St. Bartholomew's Hospital, etc., London. With One Hundred and Thirty-five Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xvi–543. [Price, $2.] [Students' Guide Series.]

To what Extent can we classify Vesical Calculi for Operation? With a Report of Cases and Remarks on the Different Methods employed. By A. Vander Veer, M. D., of Albany, N. Y. [Reprinted from the "Transactions of the American Surgical Association."]

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M. A., M. D., LL. D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Sixth Edition, revised and enlarged. New York: D. Appleton & Company, 1887. Pp. xxiv–802. [Price, $5.]

An Experimental Study of the Effects of Puncture of the Heart in Cases of Chloroform Narcosis. By B. A. Watson, A. M., M. D., etc., Jersey City, N. J. [Reprinted from the "Transactions of the American Surgical Association."]

A Complete Hand-book of Treatment, arranged as an Alphabetical Index of Diseases to facilitate Reference, and containing nearly One Thousand Formulæ. By William Aitken, M. D. (Edin.), F. R. S., etc. Edited, with Notes and Additions, by A. D. Rockwell, A. M., M. D., etc. New York: E. B. Treat, 1887. Pp. 5 to 444.

Comparison between the Surgical Diseases of the White and Colored Races. By Louis McLane Tiffany, M. D., Professor of Surgery in the University of Maryland. [Reprinted from the "Transactions of the American Surgical Association."]

Supra-pubic Lithotomy: a Historical Sketch. By Charles W. Dulles, M. D., Surgeon to Out-Patient Department in the Hospital of the University of Pennsylvania, etc. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania, 1887."]

Dryness of the Throat from Excessive Tea-drinking. By J. Walker-Downie, M. B., F. F. P., S. G. [Reprinted from the "Practitioner."]

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Blood-vessels of the Cornea in the Normal and Pathological State.—Schöbl ("Ctrlbl. f. prakt. Aug.," Nov., 1886) draws the following conclusions from his observations on the vessels of the cornea: 1. A pre-corneal vascular network, which has hitherto been assumed for the fœtal eye of man and mammals, does not exist. 2. Besides the well-known superficial, marginal, vascular network, there exists in man and mammals, more or less developed, a second system of deep marginal vascular loops. 3. The pathological blood-vessels in superficial, cutaneous, or conjunctival keratitis arise from the superficial system of vascular loops, which anastomose with the conjunctival and episcleral blood-vessels. The pathological blood-vessels in deep scleral keratitis, on the contrary, arise from the deep network of vascular loops, which anastomose with the scleral blood-vessels. 4. The superficial neoplastic blood-vessels of the cornea divide in an arborescent manner, anastomose, and form networks; the deep vessels, on the other hand, divide like a broom-end, the arteries being always accompanied by their corresponding veins.

Contribution to the Pathological Anatomy and Pathogenesis of Glaucoma.—Birnbacher and Czermak have made a number of careful experimental investigations into the pathogenesis of glaucoma ("Arch. f. Ophthal.," xxxii, 4), and have deduced the following conclusions: In searching for the effects of the changes in the circulation upon the intra-ocular tension, the most satisfactory results are found in the observations of Schultén, as follows: An increased blood-supply, as well as an obstructed venous circulation, increases the intra-ocular tension. Diminished tension of the intra-ocular vessels increases the intra-ocular tension. An active vascular dilatation may be caused by irritation of the trigeminus. A diminished blood-current and an increased vascular tension diminish the intra-ocular tension. It is thus seen that the degree of the intra-ocular tension depends not only on the degree of the transudation pressure in the capillaries, but also on the degrees of resistance to filtration in the permeable limits, and also on the width of the lymph-channels of exit. An increase of the tissue-tension in the uveal tract is always accompanied by a similar increase in the retina and vitreous, and hence will exert its action upon that part of the coats of the eyeball, which is not directly exposed to the pressure of the fluid of the uveal structures; that is, the lamina cribrosa. Another factor which may cause a permanent increase of tension is found in the changes which obstruct the exit of the tissue-fluid. These consist in obliteration of the circumvascular spaces around the vortex-veins, in the closure of the angle of the anterior chamber by the degenerated and adherent iris, and in the degeneration and fibrous adhesion of the walls of Schlemm's canal. These processes cause a thickening or condensation of the channels of filtration, and eventually an obliteration of these channels. There results then a diminution of the lymph-current of exit and a consequent increase of the intra-ocular tension, if no compensatory change occurs. Yet, in spite of all these reasons, the term glaucoma is but a symptomatic conception, and we have as yet no proof that it covers the conception of a distinct, individual disease. The chronic inflammatory changes, and the more or less pronounced œdema of the superficial tissue-layers of the anterior segment of the eyeball, explain all the clinical appearances. The great dilatation of the episcleral and conjunctival vessels is to a certain extent due to the chronic inflammation. The œdematous infiltration of the subconjunctival tissue, and of the corneal epithelium and corneal parenchyma, is the result of the increased tension in the episcleral veins. The discoloration of the circumcorneal zone is due partly to the vascular injection, partly to the altered hæmatoidin from old hæmorrhages, and partly to thinning of the sclera. The corneal cloudiness is sometimes the result of superficial inflammation. The disturbances of sensibility of the cornea may be easily deduced from the above-described processes, and they in turn are the cause of the development of vesicles sometimes seen. The shallowness of the anterior chamber results from the peripheral adhesion of the iris with the cornea. The deposit of pigmented and unpigmented cells upon the posterior surface of the cornea is due to the obstructive and inflammatory changes in the ciliary body. The changes in color and the indistinctness of the surface of the iris, the ectropion of the papillary margin, and finally the dilatation of the pupil, are in part the consequences of the shrinking membranous deposits upon the posterior surface of the iris, and are in part due to the atrophy of the iris tissue. The immobility of the pupil is also due to atrophy of the sphincter muscle. The opacities of the vitreous are partly the remains of hæmorrhages and partly due to masses of wandering cells. The peripheral degeneration of the retina and of the pigment epithelium is a further proof of the inflammatory changes in the ciliary body and chorioid. The anatomical causes of the functional disturbances are: 1. The cloudiness of the media. 2. The degenerative changes in the equatorial region of the retina caused by the chorioiditis. 3. The stasis in the retinal vessels. 4. The atrophy of the optic nerve-fibers. The intercalary, ciliary, and equatorial staphylomata are the result of the diminished resistance of the scleral tissue and the increased intra-ocular tension. The rigidity of the sclera is not merely a senile change, but is also the result of an increased intra-scleral tension caused by the increased intra-ocular tension.

General Hæmorrhage into the Vitreous; Ophthalmotomy; Cure.—Rolland ("Rec. d'ophthal.," January, 1887) reports an interesting case of a boy, aged twelve, who five days before had received a blow on the left eye from a bursting fire-cracker. There was an extensive ecchymosis of the lower lid and conjunctiva, extending into the *cul-de-sac*. The lower lid was œdematous, and there was a circumcorneal injection, with slight loss of brilliancy of the cornea, and a clot in the anterior chamber. The pupil was dilated *ad maximum* and did not react to the stimulus of light. There was no reflex from the fundus, owing to an enormous intra-ocular hæmorrhage, and the vision was reduced to zero. Forty-six days later, there being no change in the subjective or objective symptoms, Rolland determined to operate. The operation was done under rigid antiseptic precautions, and consisted in plunging through the sclera between the superior and external recti muscles, and five millimetres back of the ciliary region, a sort of sclerotome, four millimetres wide and hollowed out on each surface of the cutting blade by a groove, which began at two millimetres from the point of the instrument. After the instrument had penetrated the vitreous about half a centimetre, he rotated the handle 90°, and there immediately escaped from the eye a quantity of bloody fluid. The instrument was then withdrawn and the wound dressed antiseptically, but without a suture. The next day the patient was able to count fingers. Two weeks later the patient read at fifteen centimetres type No. 1 of the Galezowski scale. There was no scotoma, and the media of the eye had become entirely transparent.

Injuries of the Eyes by Dynamite.—Von Hippel's paper ("Archiv f. Ophthal.," xxxii, 3) is based upon his observations of twenty cases of such injury, and the injuries were of various kinds and degrees of severity. There was usually an extensive, sometimes superficial, sometimes deep burning of the skin, of the face, and lids. In addition there were subconjunctival ecchymoses, a more or less pronounced burning of the conjunctiva, sometimes accompanied by a marked injection and extensive chemosis surrounding the cornea like a wall, and sometimes characterized by that yellowish-gray discoloration and an absolute absence of visible vessels. Numerous foreign bodies of various kinds were also found both in the *culs-de-sac* and in the eyeball itself. There were often extensive lacerated wounds of the sclera and cornea also. The most characteristic changes were seen in the cornea, which in all cases was covered with a large number of grayish punctate opacities, which were sometimes in the epithelium and sometimes in the deeper layers of the cornea. These were usually caused by minute grains of sand driven into the cornea by the force of the explosion. In all the cases the corneal epithelium of the cornea was burned, and in many instances lifted off from the underlying parenchyma and hanging in shreds. These changes are met with only in the milder forms of injury. The most frequent complication of these superficial injuries were the perforating wounds of the cornea. The next most frequent complication were wounds of the sclera, which were always accompanied by detachment of the deeper membranes of the eye and prolapse of the vitreous. In one case the wound extended from the corneal margin nearly to the optic disc, and the globe had been emptied of its contents. There were almost always signs of iritis, and not infrequently the iris was detached at its ciliary margin. If the cornea was lacerated, the iris was usually torn also. In many cases fine particles of sand were found in the anterior capsule and in the lens itself. Extensive rupture of the capsule was also accompanied by rapid development of cataract. In one case Von Hippel was enabled to watch the development of an abscess in the vitreous. In twelve cases there was no perception of light immediately after the accident, showing how frequently total detachment of the vitreous occurs after dynamite explosions. The presence of large foreign bodies in the vitreous after these accidents is rare, occurring in but one case of the twenty examined. The prognosis of these injuries is very unfavorable. Of the twenty patients, eight became hopelessly blind in both eyes, and seven in one eye. All the cases in which perforation of the cornea or sclera was complicated by cataract were lost by irido-chorioiditis or panophthalmitis ending in phthisis bulbi. As regards treatment, the first step is to remove all foreign particles from the surface of the skin, conjunctiva, cornea, and sclera. The *culs-de-sac* are then to be washed with a warm solution of mercuric bichloride (1 to 5,000). Then the face should be covered with a thin gauze soaked in the same solution, and kept constantly wet until the burned portions of the skin have sloughed off. In cases of corneal wounds, if they gape, they are to be closed with sutures.

A Case of Injury to the Eye by Lightning-stroke.—Knies reports an interesting case of this nature occurring in a boy aged ten (*ibid.*). On being struck, the bystanders stated, the boy turned round and round several times, and then fell backward to the ground unconscious, and remained in this condition for two hours. He then gradually regained his consciousness, and could move all his limbs. The lids of both eyes were very much swollen, and there was constant lacrymation. On the right temple and right side of the forehead there were fresh, irregular burn-marks in the vesicular stage, and these extended along the right sterno-cleido-mastoid muscle down the right side of the body to the right foot. The eyelashes were burned off on both sides. There were incomplete ptosis, ciliary injection, and diffuse opacity of the cornea on both sides. In the right eye there was equatorial cataract, which reached to the anterior cortex, also a large stellate posterior polar cataract. There was absolute amaurosis, though the pupil reacted promptly to reflex stimulus. In the left eye there were beginning cataract, normal fundus, $V = \frac{1}{2}$, and normal field of vision. The tension in both eyes was markedly lowered. Two weeks later there were in the right eye two anterior synechiæ, and the lens opacity had increased. In the left eye the opacities of the cornea and lens had entirely disappeared. Two months after the accident the ptosis had disappeared, and both corneæ were clear. In the right eye the cataract was mature, and the light-perception and projection were normal. The pupil reacted promptly to direct and reflex irritation. Five weeks later the cataract was extracted with some difficulty through a modified linear corneal wound, and the patient then counted fingers at five metres with + D 10 Sph. The consequences of the lightning-stroke in this case were direct burning in consequence of the high temperature and physico-electric action on the nerve substance, and the secondary changes—as iritis, irido-cyclitis, and the formation of cataract.

The Pupil-symptoms met with after Injuries to the Head.—Hutchinson, Jr. ("Ophth. Rev.," April, 1887) has been investigating the condition of the pupil after injuries to the head, and makes the following brief statement in regard to the subject as far as yet investigated: In concussion of the brain, during the stage of collapse, the pupils are neither contracted not dilated, and they respond to strong illumination. This response is not always as rapid as it should be normally; not infrequently the pupils tend toward slight myosis, and inequality in size is occasionally seen. When one pupil only is markedly dilated, there are sometimes signs of irritation, probably by small hæmorrhages into the cortex on the same side. Whatever view may be taken as to the condition of the cerebral circulation, it is not doubted that the cerebral functions are, to a more or less complete degree, suspended by the violent shaking that the brain undergoes. Hence, the condition of the pupils would be expected to be the same as during sleep and the anæsthetic stage of chloroform inhalation, and in animals deprived by experiment of their cerebral lobes. In a few cases of concussion, fixed mydriasis on both sides has been noticed for a time. Although it is at present impossible to fully account for the cases in which one-sided mydriasis follows concussion and persists for a considerable period, still these cases are exceptional, without evidence of severe injury to the brain. With the onset of inflammatory symptoms, the pupils become strongly contracted, although the lesion may be at some distance from the corpora quadrigemina.

The Nutrition of the Eye, based upon Experiments with Fluorescine and Naphthaline.—Panas ("Arch. d'ophthal.," March–April,

1887) gives the results of his experiments in the following conclusions: The pathological, disorganizing current which in these experiments replaced the physiological, nutritive, reparative current, followed exclusively the path or channel through the optic nerve, retina, and vitreous, and thence extended to the lens. The entire anterior segment of the eye remained entirely free from this pathological process, which proves the existence of other channels of nutrition which escaped the action of the naphthaline, because they are of a different character from the posterior channels. The current thus established from the optic nerve toward the interior of the eye induces an accumulation of fluid between the retina and the hyaloid, and also between the two layers of the retina, as if to demonstrate the actual existence of these two spaces. The current, loaded with leucocytes and crystals, then penetrates the vitreous, owing to the anatomical connection between it and the optic papilla. The subsequent alterations of the transparency of the lens prove that the nutrition of this organ depends upon this same optico-retinal current. Pathology, as well as experimentation, proves that the various forms of chorio-retinitis are more likely than other diseases of the eye to give rise to symptomatic cataracts. Panas found also that rabbits which had been nourished by naphthaline for a sufficiently long time not only became affected with cataract, but also became amaurotic, owing to the grave lesions existing in the retina and vitreous.

Investigations into the Influence of Chronic Alcoholism on the Organ of Vision.—Uhthoff's paper is very long and involved ("Arch. für Ophthal.," xxxii, 4). His conclusions are based upon the microscopical examination of the eyes of seven patients who died of chronic alcoholism. The ophthalmoscopic examinations showed a distinct atrophic discoloration of the temporal halves of the discs. The microscope showed that the degenerative process involved the entire temporal half of the optic nerve, and extended more and more into the nerve, the farther upward and downward the sections passed eccentrically through the disc. The disturbance of vision was not always proportional to the pathological changes in the disc. In none of the cases was there complete atrophy of the ganglion-cell layer of the retina in the corresponding affected parts of the retina. In the intra-cranial portions of the optic nerves Uhthoff found the degenerated part in the center still, in the form of a horizontal oval, but just in front of the chiasm the form changed to an oblique diagonal from above and outward, downward and inward. His observations lead him to agree with Bunge that in the optic tract the fibers of the crossed and uncrossed bundles, which go to the macula lutea, lie side by side. He concludes also that those nerve-fibers which innervate the infero-temporal quadrant of the retina also run in a corresponding quadrant in the papilla. The enormous hypertrophy of the interstitial connective-tissue septa is due to a retrobulbar neuritis. The increase of nuclei was demonstrable in every case. The optic-nerve sheaths were in all cases normal. In some of the cases there was a pronounced development of new vessels, with thickened and sclerosed walls. Among one hundred and thirty-nine cases examined ophthalmoscopically, there were only sixty-five in which there was any functional disturbance. In only four cases was there any discoloration of the inner half of the disc. Out of one thousand cases examined, there were only nine in which there was any functional disturbance without any ophthalmoscopic change in the discs. In only six cases was there any hyperæmia of the papilla. In forty cases of cloudiness of the papilla the cloudiness also extended a varying distance into the retina. In 6 per cent. of the cases there was an abnormal condition of the pupils. In four cases there was a partial xerosis of the ocular conjunctiva. In thirteen cases there were distinct nystagmus-like contractions of various ocular muscles, especially the internal and external recti. In only three cases were there paralyses of one or more muscles, and those were bilateral abducens paralyses.

A Decided Improvement in the Construction of Lacrymal Probes.—Theobald ("Amer. Jour. of Ophth.," March, 1887) advises the use of aluminium in the manufacture of lacrymal probes, as preferable to silver. The chief advantage is lightness of weight, which is a special desideratum in the larger-sized probes. Another advantage is that its surface is much smoother and more slippery than that of the silver probes, so that an aluminium probe can be introduced into and withdrawn from the nasal duct with greater ease. These probes are of about the same stiffness as the pure silver probes, but the difference in weight is about as one to four. It has been found practicable to make probes as small as numbers 7 and 8 of the new metal.

Certain Retinal Reflexes visible with the Ophthalmoscope.—Gunn ("Roy. Lond. Ophth. Hosp. Rep.," xi, 3) refers to the peculiar shifting reflex often met with in examining the eyes of young people, known as the "shot-silk" or "watered-silk" retina, and to a somewhat similar reflex which sometimes maps out the region of the macula, describing an elongated oval with its long axis horizontal. In attempting to explain these phenomena, he calls attention to the fact that the limitans interna does not by any means present a uniform concave surface, but has often slight or even considerable irregularities in its curvature. The larger retinal vessels often lie superficially in the nerve-fiber layer, and the limitans interna, instead of stretching straight across, is here elevated by the convexity of the vessel, so that there is a projection of the limitans corresponding to the course of the vessel, with a concavity on each side of it. The vessel does not, however, maintain the same uniform level in the retina, but undulates antero-posteriorly. In the macular region outside the fovea centralis the retina is thicker than it is in the circummacular region, so that there is a convexity near the periphery of the macula, with a concavity bounding it externally. Gunn suggests that the light from the mirror, falling upon the sloping side of such a convex surface and meeting it at its "critical angle," undergoes total reflection, and thus illuminates an area of the neighboring retinal surface. This reflected light is visible to the observer when it ultimately falls upon a surface so placed that reflection occurs in the direction of and through the pupil of the eye under examination. The changes in the curve of the hyaloid due to the dipping of the vessel previously mentioned would account for the shimmer being occasionally visible over part of the vessel's course. That the appearance is not universal even in the young is probably due to the fact that all such retinæ do not present irregularities of their inner surface sufficient to allow of the reflected rays again becoming visible. The retina, developed from the epiblastic optic vesicle, may often be too large to conform regularly with the inner surface of the mesoblastically formed outer coats, so that unusually great irregularities will consequently exist on its inner surface. As the eye grows, however, the incompatibility will gradually become less, and by the time adult age is reached the retina will be more accurately fitted to its inclosing cup, and the pre-existing irregularities to a large extent flattened down.

A Refraction Ophthalmoscope.—Jackson ("Ophth. Rev.," Jan., 1887) has endeavored to avoid the disadvantages of the Rekoss disc by placing the lenses in two slides, moving vertically, immediately back of the mirror. These slides do not in the least interfere with the inclination of the mirror, whatever its width. They are moved by pressure of the tip of the forefinger on one of the milled projections at their lower extremities, and a spring-catch, acting on each, secures the centering of the lens at the sight-hole. The size and number of the correcting lenses are, of course, limited. Five lenses of a diameter of five millimetres are placed in each slide, and a sixth may be added by allowing the slide to project some millimetres above the mirror when the strongest lens is in use. The series recommended by Jackson are as follows: In the first slide, 1, 2, 3, 4, and 10 D convex; in the second slide, 0·50, 2·50, 5, 10, and 25 D concave. These give as combinations: Convex, 0·50, 1, 1·50, 2, 2·50, 3, 3·50, 4, 5, 7·50, and 10 D; concave, 0·50, 1, 1·50, 2, 2·50, 3, 4, 5, 6, 7, 8, 9, 10, 15, and 25 D.

A New Tonometer.—Priestley Smith ("Ophth. Rev.," Feb., 1887) has devised a new tonometer, which consists of an oblong brass box, hollowed out underneath at the front and closed at the top by a slip of glass, which slides in like the lid of a box, and is held in place by a screw at the back. The glass slide retains the working parts in position; when it is removed, the whole instrument is readily taken to pieces. Pressure is made upon the eye by means of the "ram," a piece of thin ivory having the shape of a cross, semicircular in front where it touches the eye, and resting at the other end on the upright area of a weighted lever; the weight which forms the horizontal arm of the lever is adjusted to balance a pressure of ten grammes exerted horizontally on the front end of the ram. On the upper surface of the ram, at its front end, lies a second piece of ivory, the "crescent," the anterior edge of which is hollowed to fit the convexity of the eyeball, the curvature being that of a circle 25 mm. in diameter. Near the posterior end of the ram is fixed a small upright pin, which forms a center of movement for the pointer. This pointer is made of steel, and lies flat upon the surface of the ram, being kept upon its pin only by the glass slide which is immediately above it. The apex of the pointer travels over a millimetre scale engraved on the ram. The pointer is connected with the crescent by a wire. The posterior end of the wire is bent so as to drop into a hole in the pointer; the anterior extremity carries a vertical pin, which forms a pivot on which the crescent can to a certain extent rotate. The operator holds the instrument horizontally, and applies the tip of the ram to the surface of the eyeball, making gentle, steady pressure upon it. The ram dimples and depresses the wall of the eye until the resistance of the sclera becomes equal to the pressure exerted by the lever; the ram can then enter the eyeball no farther, and begins to slide backward in the box. The instrument is then removed from the eye. Meanwhile the crescent and pointer have registered the depth of the impression made. At the beginning the edge of the crescent and the tip of the ram exactly coincide, but, as the ram advances, the crescent, which offers no resistance beyond the weight of the pointer, slides backward and communicates its movement to the pointer. The pointer magnifies the movement exactly ten times, and the divisions of the scale indicate the depth of the pit in the eye in tenths of a millimetre. In using the tonometer the patient should be seated facing the window; his head should be vertical, and the eyes should be directed upward at an angle of 45°, or rather more. The surgeon, standing behind him, depresses the lower lid with the forefinger of the corresponding hand. He takes the tonometer in his other hand, steadies it by resting it lightly on the finger which depresses the lid, and presses it gently and steadily against the eye at a point 4 mm. below the cornea. The pressure is continued until the pointer refuses to move farther. The tonometer is then removed, and the position of the pointer noted.

Miscellany.

The Forgotten Worthies of Medicine.—"A volume," says the "Lancet," "might be devoted to this theme, and one of its most interesting chapters would be descriptive of the heroic life and death of Eusebio Valli. That gifted Tuscan physician, whose anticipations of Pasteur's prophylactic treatment of rabies have already been noticed in the 'Lancet,' met his death at Havana in circumstances which do honor to himself and to his calling. From his Oriental experience with the plague, he had convinced himself that inoculation might be extended to yellow fever—as, indeed, it has quite lately been by Dr. Freire at Rio de Janeiro. In 1815 he was acting as ordinary physician to the Military Hospital at Dijon, in France, and, with the sanction and aid of King Louis XVIII, he set sail on December 14th of that year for America, to put his theory to the proof. Arrived at Philadelphia, he had an interview with the celebrated Dr. Moore, who warned him against the attempt; but Valli made the characteristic reply: 'Believing in the contagious character of yellow fever, I propose to inoculate myself with the perspiration of the moribund from that disease, and also with the bile taken from their dead bodies, modifying the poison with the self-same reagents I employed in my experiments on the plague of the East. If it is inscribed in the Book of Fate that I am to fall a victim in this great ordeal, my death will not be without honor.' In 1816 the yellow fever did not visit North America, so Valli set out for Havana in quest of patients suffering from the malady. He presented himself to the public health authorities of that city, and they so far approved his design as to nominate two physicians, Dr. Antonio Machado and Dr. Romay (who afterward wrote his *éloge*), to be his assessors. On September 20, 1816, he was conducted to the Hospital of St. John the Divine, in Havana, and there he found a patient from yellow fever *in articulo mortis.* Valli watched the aspect of the sufferer—the black sanious blood oozing from his mouth and from other parts of his body—and, having felt his pulse, he withdrew. He returned next day to the bedside of the patient, now a corpse. Then, before proceeding to inoculate himself with the vomit and the bile, he put on the nightgown of the deceased, saturated as it was with perspiration, and rubbed it well over his back, breast, and abdomen. He had not long returned to his abode when the first symptoms of the peculiar malaise supervened. On the evening of the next day, September 21st, he sent for Dr. Romay, who found him pale as death, his strength gone, the life rapidly ebbing. He could pronounce only a few broken sentences, interrupted by long-drawn sighs. He said: 'My fate is irrevocable; I am dying.' Everything that his medical friends could do for him was done; but, after lingering in a comatose state till the third day from his seizure, he expired (September 24th). The Sociedad Económica, of Havana, in grief and admiration for their guest, caused his portrait to be hung in the public library of the city, an honor up to that time accorded to but two members of the Society, and they also had inscribed on his tomb an epitaph, still read by the stranger in the cemetery of Havana, and of which the following is a translation: 'To God, the All-good and Almighty. Here lies Doctor Eusebio Valli, victim to his love for mankind; the Economic Society of Havana solicits for his memory the prayers of the pious. Anno Domini 1816.' A descendant of Valli's, the Cavaliere Giuseppe Valli, advocate, has recently been at pains to collect all the papers and documents relating to his illustrious kinsman, and to weave them into a suitable memoir—mainly by the help of Spanish and other foreign coadjutors, his compatriots, by their neglect of the good and great physician's name and memory, having long incurred the reproach now launched at them by his latest biographer: *Nemo propheta in patria sua!*"

Ventilation of the Beds of the Sick.—Dr. Morrill Wyman, of Cambridge, Mass., writes as follows to the "Lancet":

"In the Cambridge (Mass.) Hospital there is an arrangement for the ventilation of the beds not generally known; it is so effective that I wish to describe it. Beneath each bed is a ventilating tube of about eight inches diameter, fifty square inches area, leading directly through the floor to a foul-air trunk, beneath which it communicates with the main ventilating chimney. About 2,000 cubic feet of air an hour is thus drawn from beneath each bed. This ventilating tube is connected with the bed above by a four-inch pipe of tinned plate, with a proper cover and joints, which passes around the side or foot of the bed and into it beneath the clothing. This pipe is lengthened with one of the same size of pasteboard or other substance, a non-conductor of heat, reaching to any part of the bed. By this simple means foul air is removed as fast as formed, the bed kept free from odor, and the patient's body is no longer surrounded with contaminating gases. As the air presses inward through the porous bed-clothing none escapes into the ward. Further, a two-inch flexible pipe is adjusted to that just described, and slipped over the hollow handle of the bed-pan when in use, carrying off odor from that also. In the same hospital similar means connect the beds in the private wards with the chimney of an ordinary fireplace, up which the pipe reaches about four feet to insure a good draught with a moderate fire; the part in the chimney is of black iron. The advantages of such an arrangement in cases of sloughs, foul ulcers, cancers, and in fevers with frequent fæcal dejections, are obvious. It may be supposed that the passage of air through the bed would cool it too much. Practically it does not; probably the quantity of air passing is about the same as in beds ordinarily at the same temperature of the room, but in a different direction."

The New York Cancer Hospital, in Eighth Avenue and One-hundred-and-fifth and One-hundred-and-sixth Streets, will be opened with appropriate exercises on Tuesday, the 6th inst., at 3 o'clock P. M. Short addresses will be made by the president, John E. Parsons, Esq., and by Dr. Fordyce Barker and Dr. W. H. Draper. The medical profession is invited to be present. The building will be open for inspection from 3 to 6 o'clock of the same day, and patients will be received on Wednesday, the 7th inst. The nearest elevated railway station is at One-hundred-and-fourth Street, and the exit from the Central Park at One-hundredth Street.

The New York Society for the Relief of Widows and Orphans of Medical Men recently elected officers as follows: Dr. Gouverneur M. Smith, president; Dr. Henry Tuck, Dr. Everett Herrick, and Dr. W. C.

Livingston, vice-presidents; Dr. Willard Parker, secretary; Dr. John H. Hinton, treasurer; and Dr. E. C. Seguin, Dr. J. J. Milhau, Dr. Willard Parker, Dr. Isaac E. Taylor, Dr. J. W. Warner, Dr. W. T. White, and Dr. A. F. Currier managers for three years. The society's assets were reported as amounting to $157,766.11.

The Kings County Medical Association.—At the next meeting, to be held at No. 398 Fulton Street, Brooklyn, on Tuesday evening, the 6th inst., an adjourned discussion on "Antipyretics" will be opened by Dr. J. D. Rushmore.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology, on Friday evening, the 9th inst., Dr. Allan McLane Hamilton will read a paper on "The Detection of Concealed Delusions by means of Nitrous-Oxide Gas," and Dr. R. W. Taylor and Dr. R. Van Santvoord will read papers each entitled "Two Cases of Raynaud's Disease, with Remarks."

At the next meeting of the Section in Surgery, on Monday evening, the 12th inst., a discussion on "The Treatment of Obstinate Club-foot by the Open Incision" will be opened by Dr. Mason Jones, and continued by Dr. Sayre, Dr. Poore, Dr. Shaffer, Dr. Gibney, Dr. Gerster, Dr. Judson, and others. Dr. Newton M. Shaffer will read a paper "On the Treatment of Ununited Fractures of the Femur by Portable Traction and Fixation Apparatus." Dr. R. T. Morris will read a paper "On Fracture of the Fibula from Adduction of the Foot."

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 16th inst., Dr. V. P. Gibney will read a paper on "The Treatment of Flat-foot."

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 19th inst., Dr. O. D. Pomeroy will read a paper entitled "Some Points in the Management of the Eustachian Tube in certain Ear Affections," and Dr. C. H. May will present "A Résumé of Experience at the Aural Clinic of Professor Schwartze, in Halle, Germany, with Exhibition of Instruments."

The Health of Boston.—During the week ending Saturday, November 26th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 21 cases and 7 deaths; scarlet fever, 64 cases and 17 deaths; typhoid fever, 12 cases and 3 deaths; measles, 11 cases. There were also 29 deaths from consumption, 21 from pneumonia, 1 from whooping-cough, 15 from heart disease, 18 from bronchitis, and 5 from marasmus. The total number of deaths was 189, against 164 for the corresponding week last year.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for the month of October, there were 486 deaths from all causes during the month, including 2 from cholera morbus, 22 from cholera infantum, 25 from croup and diphtheria, 15 from cerebro-spinal meningitis, 4 from dysentery, 6 from diarrhœa, 1 from erysipelas, 8 from typhoid fever, 5 from measles, 2 from whooping-cough, 2 from pyæmia, 1 from septicæmia, 1 from scarlet fever, and 2 from small-pox.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending November 25th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 5th corresponded to an annual rate of 21·4 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Hull, viz., 12·7, and the highest in Halifax, viz., 31 in a thousand. Small-pox caused 21 deaths in Sheffield.

London.—One thousand seven hundred and thirty-five deaths were registered during the week ending November 5th, including 30 from measles, 60 from scarlet fever, 19 from diphtheria, 44 from whooping-cough, 25 from enteric fever, and 20 from diarrhœa and dysentery. There were 506 deaths from diseases of the respiratory organs. Different forms of violence caused 49 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 21·5 in a thousand. In greater London 2,096 deaths were registered, corresponding to an annual rate of 20·2 in a thousand of the population. In the "outer ring" 12 deaths from diphtheria and 13 from measles were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 5th in the sixteen principal town districts of Ireland was 26·7 in a thousand of the population. The lowest rate was recorded in Kilkenny, viz., 4·2, and the highest in Waterford, viz., 39·4 in a thousand.

Dublin.—Two hundred and ten deaths were registered during the week ending November 5th, including 6 from measles, 2 from whooping-cough, 19 from scarlet fever, 7 from enteric fever, 5 from diarrhœa, and 1 from diphtheria. Diseases of the respiratory organs caused 42 deaths. Three accidental deaths were registered, and in 32 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 5th corresponded to an annual rate of 20·6 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 15·1, and the highest in Paisley, viz., 29·1 in a thousand. The aggregate number of deaths registered from all causes was 515, including 6 from measles, 14 from scarlet fever, 6 from diphtheria, 26 from whooping-cough, 6 from fever, and 8 from diarrhœa.

Malta and Gozo.—During the month ending October 15th there were 295 deaths from cholera.

Gibraltar.—The secretary of the board of health, under date of October 25th, states that, "with reference to the orders of the board of health of the 10th, 15th, and 19th August and 8th September, it has been decided that the quarantine against Sardinia, Civita Vecchia, and southern Italy be raised, with the exception of Calabria, from Amantia to Cotrone, round Cape Spartivento."

Havana.—Three deaths from yellow fever and 48 from small-pox are reported for the week ending November 12th.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	November 5.	2.260.045	929	..	....	5	....	16	5	14
Warsaw	October 29.	439,174	258	..	....	11	....	....	9	9
Calcutta	October 8.	433,219	204	15	....	....	....	....	....	....
Amsterdam	November 5.	378,686	137	..	....	....	....	3	....	1
Rome	Septemb'r 17.	372,779	171	..	....	7	....	8	....	2
Munich	October 29.	269,000	114	..	....	....	....	....	1	8
Edinburgh	November 5.	258,629	80	..	....	....	1	1	....	1
Palermo	November 6.	250,000	111	..	....	....	....	2	....	1
Belfast	November 5.	224,422	117	..	....	....	....	3	5	1
Leipsic	November 5.	170,000	49	..	....	....	....	2	....	2
Trieste	October 22.	150,157	87	..	....	13	....	....	1	3
Toronto	Novemb'r 12.	130,000	25	..	....	....	....	....	....	2
Stuttgart	November 5.	125,510	34	..	....	....	....	....	....	1
Havre	November 5.	112,074	68	..	....	....	....	8	1	1
Bremen	October 29.	119,000	36	..	....	....	....	....	....	1
Reims	November 5.	97,903	44	..	....	1	....	1	....	....
Leith	November 5.	72,297	21	..	....	....	....	....	1	....
Mayence	October 29.	65,701	......	..	....	....	....	....	1	2
Merida	November 8.	48,832	46	..	1	....	....	....	....	....
Cienfuegos	October 31.	35,464	16	..	3	3	....	1	....	....
Cienfuegos	November 7.	35,464	14	..	1	6	....	....	....	....

UNITED STATES.

Tampa, Fla.—Yellow Fever.—The sanitary inspector reports as follows:

"For week ending November 23d, 8 cases, 4 deaths—making, approximately, 380 cases and 71 deaths.

"*November 23d.*—For two days, 5 new cases, 1 death. Among sick to-day, two refugees who returned last week. Please warn, through press, all persons away from here not to return yet, as it is not safe. Although there has been a freeze, there are yet cases, and the infection is still here.

"*November 24th.*—No new cases and no deaths to-day. All Savannah nurses have been discharged and sent home, and three Key West nurses to-night."

The Methodist Hospital, Brooklyn.—The first pavilion of this new hospital, founded by Mr. George I. Seney, will be opened with appropriate ceremonies on the 15th inst. It will afford accommodation for about seventy-five beds, and will be thoroughly equipped for the work of a general hospital. Two resident medical officers are to be appointed at once, and the medical board solicits applications from recent graduates. It is desired that at least one of the appointees shall have already had hospital experience. Application should be made to Dr. L. S. Pilcher, 145 Gates Avenue, Brooklyn, or to Dr. A. E. M. Purdy, 304 Madison Avenue, New York.

THERAPEUTICAL NOTES.

Treatment of the Sound Limb in Sciatica.—Dumontpallier and Raymond ("Comptes rendus de la soc. de biol."; "Lyon méd.") have found in several cases of sciatica that irritation of the opposite limb, and especially spraying it with chloride of methyl, produced speedy amelioration of the pain. The method is said not to be of so much value as treatment addressed directly to the course of the affected nerve, but it is accounted interesting as affording an example of localized analgesia due to inhibition, certain sensory centers in the spinal cord being inhibited by irritation of neighboring sensory centers.

Salol as a Remedy for Sciatica.—Aschenbach (quoted in the "Lancet") has found that salol, taken internally, mitigates his sciatica better than any other remedy. He first took seven grains and a half, and subsequently, on the same day, fifteen grains.

Common Salt in the Treatment of Migraine.—Rabow ("Therap. Monatsh."; "Ctrlbl. f. klin. Med.") states that, where an attack of migraine is ushered in with gastric symptoms, common salt, taken at once, usually checks it, although it sometimes fails. From half a teaspoonful to a teaspoonful is to be swallowed dry, and then the patient is to drink a little water.

Antipyrine as a Hæmostatic.—Olikoff ("Russk. Meditz."; "Lancet"), having seen an account that antipyrine possessed hæmostatic properties, employed inhalations of a solution (fifteen grains to an ounce of water) in six cases of hæmoptysis, ordering five or six inspirations to be taken through the inhaler every half-hour or hour. The hæmoptysis diminished at once, and was rapidly arrested.

A Remedy for Hoarseness and Catarrhal Coughs, said to be rapid in its action, is prepared according to the following formula ("L'osservatore"; "Dtsch. Med.-Ztg."):

Ammonium acetate	3	parts;
Potassium bromide	3	"
Tincture of belladonna	1½	"
Tincture of aconite	2	"
Infusion of balsam of Tolu	150	"
Syrup of balsam of Tolu	50	"

A tablespoonful is to be taken every three or four hours.

Iodoform in the Treatment of Gonorrhœa.—Thiéry ("Prog. méd."; "Ctrlbl. f. klin. Med.") recommends injections of oil of sweet almonds holding finely powdered iodoform in solution. Six patients so treated were cured in the average space of thirteen days, about seventeen injections being used. The anodyne action of the iodoform is considered important as well as its germicide properties. Before each injection, the urethra should be washed out with lukewarm water.

Salicylic Acid as an Application to Warts.—The "Union médicale" credits E. Vidal with the following formula:

Salicylic acid, Alcohol, } each	1 part;
Sulphuric ether	2½ parts;
Collodion	5 "

The warts are to be painted with the solution daily.

ANSWERS TO CORRESPONDENTS.

No. 98.—Our information is that it is exceedingly difficult for an American practitioner to get an appointment as surgeon in the service of a steamship company. Most of the passenger lines are in foreign hands, and it is natural that the owners should favor their own countrymen. If an appointment is to be obtained at all, it is only by bringing a great amount of professional and social influence to bear upon the directors, and especially upon the executive officers.

No. 99.—1. We have looked through our files of the two journals you mention, but have not found such an article. Possibly you have in mind Dr. Parsons's article "On the Classification of Mental Diseases," which appeared in our issue for June 25th. 2. Our understanding of the matter is, that it was voted at the last meeting of the American Medical Association to hold the next meeting in Cincinnati, beginning on the second Tuesday in May, 1888. 3. The American edition of Ganot's "Elements of Physics" is published by Messrs. William Wood & Co. It is to be presumed that their next issue of the book will contain the revisions of the last London edition.

No. 100.—It is the foramen of *Monro*, not Monroe or Munro.

No. 101.—We believe that the cases are very exceptional in which axis traction can not be made well enough with any good obstetrical forceps.

No. 102.—We think the most suitable height for the pulley of a traction exercising apparatus is about six feet above the floor.

No. 103.—Dr. Taylor's original article on "Dactylitis Syphilitica" was published in 1870, in the "American Journal of Syphilography and Dermatology."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

ADDRESS ON THE OPENING OF THE NEW YORK CANCER HOSPITAL,

CORNER OF EIGHTH AVENUE AND 106th STREET.

By FORDYCE BARKER, M. D., LL. D.

The opening of a new hospital in this city, the first in this country and the second only in the world, devoted exclusively to the treatment of cancer, is an event of such importance that I greatly regret that the selection of a person to give the address had not fallen upon one more competent to do justice to the occasion. But some considerations have been forced upon me which seem to make it an imperative duty to accept the position, and throw myself on your kind indulgence.

One inducement which had its weight on my mind is the fact that I do not profess to be a surgeon, and as the wonderful progress made within the past decade, in the successful cure of many cases of cancer which before would have been left to die a miserable death, have been in the domain of surgery and the result of surgical proceedings, I can speak of these without any imputation of self-laudation.

My purpose is simply to show the necessity for and the usefulness of such a hospital—to impart some knowledge of the nature of this terrible disease, cases of which will seek relief and cure within these walls, and to correct some popular errors in regard to it which seem to be almost universal, and which the profession well know have caused an incalculable amount of unnecessary misery and unhappiness in the world. It is to be confidently hoped that the good which this hospital will eventually accomplish in the relief of unhappiness and suffering will be represented only in a minor degree by its future inmates, but will extend to many thousands who will never be within its walls.

As preliminary to what I am about to say, I may be permitted to define some words which are in general use by the public in a sense quite different from their professional use. The word tumor, when applied to any abnormal enlargement in any part of the system, is one which carries terror to the minds of most patients, who often consult their physician because of an avowed apprehension that they have a tumor.

The word tumor is nearly but not exactly identical with the word swelling, and carries to the professional mind no significance as necessarily implying danger to life. We speak of glandular tumors, fatty, cellular, or fibrous tumors as innocent or benign, meaning thereby that they are purely local growths having no tendency to extension by formation of other growths, and that if removed they are gone for ever. But we also have what are called malignant tumors, which involve a destructive degeneration and gradual invasion of adjacent tissue, and which may finally infect the general system and destroy life.

Cancer, using the term in a generic sense, is a typical form of malignant tumor. It is probable that this was first observed and studied as an external disease. The name is said to have been given to this affection by Galen, who lived in Rome in the latter part of the second century and was a physician of great eminence, and one of the most accomplished and learned men of his age. From a fancied resemblance of the appearance of the disease as it extends itself into adjacent healthy tissue to the claws of a crab, he gave it the Latin name of crab—namely, cancer. Since his day the name has been universally adopted both by the medical profession and the public, and is popularly applied to all forms of the so-called malignant growths, such as scirrhus or hard cancer, encephaloid or brain-like cancer, epithelioma, the rapidly growing infecting and recurrent forms of sarcoma, and other varieties, which may differ much in structure and in their clinical features.

The malignancy which is the common characteristic of all, justifies the long-continued popular usage of the term cancer to cover all these diseases, and all come within the province of this hospital to treat. I will briefly refer to some of the peculiarities of this group of diseases which distinguish them from all others. They have for some years been gradually increasing in frequency and causing a larger proportion of deaths in those nations which are the most advanced in civilization.

In the "Forty-first Annual Report of the Registrar-General of England," published in 1880, it is asserted that the number of deaths from cancer was 5,218 in 1851, and 12,664 in 1878; but, as the population had largely increased in this period, the increase in frequency will be more distinctly appreciated by the following quotation from this report: "The average annual mortality (from cancer) during the five years 1850–'54 was 304 in one million living. In the five years 1870–'74 it was 443, while in the year 1878 it was 512."

In New York city the proportion of deaths from cancer in 1875 was 400 to the million. In 1885 it was 530 to the million. According to the "Reports on Vital Statistics of the Census of the United States of 1880," the proportion of deaths from cancer to the total number of deaths reported from known causes was 36·68 to the thousand.

Cancer is a disease of advanced age. It is found in all ages, but in very unequal proportions. In 8,193 cases the proportion of deaths under five years of age was 15·95 in a thousand, while from five to ten it is only 2·82 in a thousand, and from ten to fifteen 1·60 in a thousand. From the age of fifteen the proportion gradually rises in each quinquennium, until, between the ages of fifty and fifty-five, it reaches 130·18 in a thousand. After this period the proportion gradually diminishes as the population who are living after this period of life diminishes. Mr. Jonathan Hutchinson, of London, whose opinion on all questions of pathology is considered authority by the profession in all parts of the learned world, in the most able discussion which has ever been held on this subject, that before the Pathological and Clinical Society of Glasgow in 1886, said: "Of the causes which underlie the proclivity to cancer, and which render some races and some families more prone than others, we as yet know but little. What little we do know would lead us to believe that it has nothing to do with diet or with climate. The herbivorous animals are liable to it as well as the carnivorous, and, so far as I know, it prevails in all parts of the world where the conditions are favorable to longevity. Wherever, from whatever cause, they are not so, there cancer becomes relatively infrequent. It is almost unknown in those of our domestic animals which are used for food, for the simple reason that we never let them grow old, while in dogs, cats, horses, and asses it is common."

Dr. Billings says: "The increase of mortality from cancer with advancing age may be explained either on the theory that the cause of cancer becomes more potential in advanced age at the period of physiological decay, or on the theory that the predisposition to cancer belongs to the strongest and longest lived." The fact is settled beyond question that in those populations where but few reach old age cancer is proportionally rare.

There are some curious and interesting facts in regard to the geographical distribution of cancer which science as yet does not satisfactorily explain. The last census of the United States demonstrates that this disease is especially prevalent in the New England States and on the southern Pacific coast; that it is prevalent in New York, Pennsylvania, Ohio, and in the interior of Michigan and the southern part of Wisconsin; that it is least prevalent upon the Mississippi and in the South, and that the proportions are generally lower in the coast regions than in the interior. An examination of the reports of death from cancer in England and Wales made by Dr. Havilland led him to conclusions quite in accord with those derived from our own census. Both banks of the Tweed near Berwick, and of the Tyne at Newcastle, some parts of Yorkshire, and the whole of the beautiful Lake District, are fertile beds of cancer. The Isle of Wight is all but free from this disease, while it is common in Brighton, Folkestone, Dover, Ramsgate, and Margate. Statistics also demonstrate, as other facts have seemed to prove, that density of population, poor living, and laborious toil have very little to do with the development and appearance of cancer. Thus in London, in which, as a whole, cancer is very prevalent, the parish of St. Luke's, the neighborhood of Bishopsgate Street, crowded Bethnal Green, the Isle of Dog, Rothershithe, and Bermondsey are almost exempt from this disease, but in the respectable parts of the metropolis, about the Marylebone Road, Regents Park, and Primrose Hill it is exceptionally frequent. Liverpool, which has a large mortality from other causes of death, as shown by the fact that, with a population of 552,000 in 1878, the number of deaths exceeded those of the total number of its births by 1,000, the percentage of deaths from cancer was exceptionally small. In the future it may be discovered that the localities where the prevalence of this is most frequent have certain characteristics in common which science may overcome, and thus notably diminish this tendency in such localities.

In the "Report on the Vital Statistics of the United States of the Tenth Census in 1886" it is remarked that the peculiarities of the differences in the mortality from cancer in different localities may be in part explained by differences in the population of these localities as regards race and age. It is a disease which is much less frequent in the colored than in the white race, hence the mortality from it is greater in the North than in the South. It causes the greatest proportion of deaths where there are the greatest proportion of people of advanced age—that is to say, in the New England States. Hence in any given locality, a large proportion of deaths from cancer indicates to a certain extent that the locality is a healthful and a long-settled one, and has a large proportion of inhabitants of an advanced age.

Cancer is not a disease due to misery, to poverty, to bad sanitary surroundings, to ignorance, or to bad habits. On the contrary, it is a disease of the most highly civilized, the most cultured, the wealthy, and of localities which are the most salubrious. One of the characteristics of cancer is that, unless the brain is involved, it leaves intellectual power and force unimpaired. Nay, it seems that in some cases it almost increases these qualities.

No pathetic incident is more indelibly stamped on my memory than a visit made to a victim of this disease whom I found, as I often had before, seated at his writing table, his drawn, pallid face expressing fatigue and suffering, but still more expressive of will force and a remarkable power of endurance.

"Excuse me," he said, as I entered the room, "until I finish a paragraph that I have just begun." After a few moments he laid down his pen, saying, with a sad gleam of satisfaction, "There, since your visit yesterday I have written eight pages."

After the commencement of his painful illness, stimulated by the hope of overcoming reverses and leaving his family in circumstances to which their former position entitled them, he succeeded in accomplishing a larger amount of work, and receiving a greater pecuniary reward for it, than in the history of the world was ever before attained for literary work in so short a period of time.

Census reports are to most persons uninteresting, and the value of the two large volumes of the last census which relate to the vital statistics of this country can be appreciated by but few persons; nevertheless, I wish to call your attention especially to the importance of these books, and to the remarks in which Dr. J. S. Billings, of the United States Army, under whose direction they were compiled, sums up the conclusions which may be drawn from them, and points out the way in which such statistics should be extended, improved, and made reliable as a means of increasing our knowledge of the causes of pain and death, and of the means of destroying or of diminishing these causes.

The belief has been almost universal, both with the profession and the public, until within a comparatively recent period, that cancer has generally a hereditary origin. It is probable that no doctrine in regard to the cause of disease has given rise to so much and so causeless misery and unhappiness in the world as this. In those who have some symptoms which they suspect to indicate the beginning of this disease, suspicion becomes a conviction if any relative of a former generation has died of cancer. They may almost be said to begin the pangs of a moral death long before it is demonstrable that physical death is inevitable from this cause. If the patient has any family history of this disease, and is suffering from any acute or chronic affection, attended with symptoms which he has heard exist in cancer, the effect of this conviction is not only most depressing, but dangerously complicates conditions which otherwise might result in recovery. I have personally known many illustrations of the truth of both of my two last assertions. Again, I have more than once been asked, in those pathetic tones which tell of heart-breaking anxiety, "Are my children or is my daughter doomed to suffer as I now do?" The answer, given in no equivocal words, is, The probability of such a doom for any descendant of yours is extremely small. In all the statistics which I have been able to collect, where the antecedent family history seemed to be trustworthy, I have found the proportion of those who have had cancer, in whom some relative of a former generation is reported to have had some form of malignant disease, to be only 13·65 per cent. On the other hand, in regard to one family which has in the present generation the largest number of victims that I have ever personally known, I have authoritative proof for asserting that no development of any form of malignant disease has ever existed in three previous generations, including collateral branches.

Before a professional audience I could give a list of names, which would be regarded as conclusive as to present belief of the profession on this point. More than a quarter of a century ago, Mr. Jonathan Hutchinson, whose opinions carry the greatest weight, expressed his disbelief in hereditary origin as an effective cause. Recently—that is, during the past year—in a notable and most able discussion of this subject he said, "It is utterly useless to employ such a term as hereditary transmission of cancer in such a sense as we speak of the transmission of some other diseases."

A proclivity to the disease may result from the conjunction of certain parentage, but it can not be said to be inherited from ancestors in whom it did not exist. We may speak of cancer being hereditary as we speak of delirium tremens as hereditary, but in neither case is this transmission of the disease. Parents can not transmit to children disease which has no existence in their own system previous to the birth of the children, and then it is absurd to say that a daughter has inherited the disease which her mother first developed twenty-five years after the birth of the daughter.

A cancer bacillus is as yet unknown in science, and the most recent investigations have failed to find any. But I observe that Sir James Paget, in a lecture delivered on the 11th of November, expresses the belief that micro-parasites, or substances produced by them, will some day be found in essential relation with cancer and cancerous diseases. But as yet there are no ascertained facts which support this belief.

In a paper read before the Academy of Medicine in 1870 I then avowed the opinion that cancer could not be regarded as a hereditary disease, but that a hereditary tendency to it often exists in those whose ancestry has been wholly exempt from it. In such it is probably developed by some local existing causes.

Cancer was regarded by Abernethy, a great authority in pathology and surgery during the early part of the present century, as being simply the local manifestation of a constitutional disease. Within the past few years a large number of the most eminent pathologists have become adherents to the doctrine that it is primarily a local disease, and that the constitutional affection is a secondary result. This is not the time or place to review the various able arguments which have been urged in favor of one or the other view, but it is a point of great importance, as affecting the question of the curability of the disease. In the first place, no medicine has yet been discovered which acts specifically in retarding or curing the disease as quinine and mercury and other medicines do certain specific diseases. No man has the moral right to administer any drug without some well-defined view of the end which he wishes to accomplish, and a well-grounded belief that the drug he selects will probably effect this result. But in cancer we do not know what primary changes are necessary, in either tissue or function, to prolong life or cure the disease. Even if we did know this, no drug has yet been found which experience has proved will effect these changes. So it may be positively asserted that no case of cancer has ever been proved to have been cured by medical treatment. But many cases have been arrested for months and years by surgical treatment, and, as after three years it is generally believed that the probability of recurrence is very slight, we have the right to say that many cases have been absolutely cured by total removal of the diseased tissues.

I think sufficient facts have been accumulated, especially within the past ten years, to justify the following assertions. Total removal of the whole diseased growth when it is found as a distinctly limited affection, the lymphatic glands not being involved, it is highly probable will be followed by a cure.

If the disease has involved the lymphatic vessels and glands, the chances of cure are materially diminished, but in many such cases an operation has proved to be of great service in relieving suffering and prolonging life for months, and in some cases from one to two or three years.

After the local disease has existed a sufficient length of time to contaminate the blood and infect the general system, a cure by an operation or by any other method is absolutely hopeless. Great progress has been made in successful surgery within the past few years by a resort to the operation at the earliest possible period—that is, so soon as the existence of the disease can be determined.

The most recent and probably the most authoritative writer on this subject, Mr. Butlin, of London, asserts that every week of delay increases the danger of the contraction of various adhesions, of affection of the secondary glands, and of the formation of secondary growths. But duration alone is not a conclusive argument against the success of an operation, for, as the same author adds, "when long duration of a malignant tumor is associated with a very slow progress, small size, absence of serious adhesions, absence of affection of the neighboring lymphatic glands and of secondary growths, so much the more favorable is the prospect of permanent relief from operation for its removal."

The question of the locality of the growth is one of great importance in forming a decision as to the necessity and probable success of removal, and will always be carefully and conscientiously weighed before a decision is made. These malignant growths may appear in any tissue of the body, external or internal, and eminent surgeons of this city, as elsewhere, have removed them, with all the success anticipated, from muscles, bones, lymphatic glands, the eye, the face, the lower lip, the tongue, the breast, and other external organs.

If this were a fitting opportunity and time would permit, I am sure all present would be interested in hearing an account of such as I have personal knowledge of, either from my own observation or from a knowledge derived directly from the operations. But such details would be inappropriate on the present occasion, and I am compelled to deny myself the pleasure of paying a just tribute to the skill and sound judgment of surgeons that we have in our city.

Dr. S. W. Gross, of Philadelphia, asserts: "The convictions are steadily gaining ground that this disease in the breast is primarily a local affection and not a constitutional one, and that these views are supported by many of the most eminent men living; pathologists such as Virchow of Berlin, Billroth of Vienna, Fersche of Breslau, Esmarch of Kiel, Nussbaum of Munich, Volkmann of Halle, Erichsen, Hutchinson, Gull, Simon, Bryant, Green, and others of London, and the late Dr. Gross and Dr. Parker, Dr. Peters, Dr. Moore, Dr. Richardson, and others in the United States, have shown by the statistics of their own practice and that of others the usefulness and success of the surgical removal of the disease.

But, as I have before said, removal of the disease by operation is not restricted to external organs, but many operations for removal of internal organs have been performed with all the success that could be anticipated, although, it must be added, there have been many failures. On November 14th, three weeks ago, I was present when one of the medical board of this hospital performed one of the most difficult operations ever attempted in surgery—viz., the entire removal of a most important internal organ. I had previously seen the patient, and concurred in the opinion that the operation was imperatively necessary, and that it offered a fair promise of success; I may add that the opinion of the operator and myself was given independently, each without the knowledge of the other. This patient, as I have learned within a few days, has had no unfavorable symptoms which have retarded her convalescence. It is possible that she may hereafter escape any return of the disease. It is certain that her life has been prolonged, and that she has been saved from months or perhaps years of suffering, which would have soon ended her days. A fair number of cases have been reported in which such results have been attained. And yet so late as fifteen years ago any proposal to attempt such an operation would have been condemned by the universal sentiment of the profession; and if it had been attempted and resulted in failure, the public would have denounced the operator as a reckless, unscrupulous butcher, who had no conscience as regards the result to his patient, but simply sought personal glory in the *éclat* of having performed a wonderful operation. All of us have before heard such language applied to surgeons.

The case which now commands the most universal sympathy and interest in all nations of the world is that of the Crown Prince of Prussia. It is an unparalleled event in history that three men, two of whom had been at the head of the government of their respective nations, and the third whose probable inheritance was an empire, should each have been victims to malignant disease, in contiguous localities differing only in some minor details, at the same period in the world's history. In the case of President Grant, the locality of the malignant growth was such that it was decided by most competent authority that from the beginning a successful removal by surgery was not practicable, as the danger from such an attempt would be much greater than the probability of any benefit. During the illness of General Grant I received a letter from the brother-in-law of Dom Ferdinand, ex-King of Portugal, and his attending surgeon, detailing the history and description of the case of the ex-King, in whom malignant disease had also appeared in the mouth, very near to but not exactly in the same site. From the description given, the conviction was irresistible to my mind that it would be impossible by any surgical procedure to remove the whole of the diseased tissue, and that any attempt of the kind would be attended with such danger as might be followed by immediate death and would undoubtedly shorten the duration of his life. His death followed within a few months that of our honored ex-president. As regards the probable future of the case of the Crown Prince, none but those able men who are in attendance upon him, and who must have a knowledge of many details which are essential elements, but which it is impossible to explain to the world, are competent to form or express any opinion of value. In general terms, I may say that his general health is reported to be very good—that the progress of the disease appears to be slow as compared with some cases, and I may add, if it be decided by his medical advisers that partial or entire excision of the larynx should be performed, we have abundant evidence that in a certain number of cases both of these operations have prolonged life to a period when the probability of recurrence is very small. In some cases entire excision has saved life for a length of time; that gives great encouragement for hoping that the ravages of this terrible disease have been arrested. Two such happy results have been reported in this country and several abroad. Dr. Roswell Park, of Buffalo, in June, 1885, removed the entire larynx on account of the existence of this disease in a patient who was himself a medical man. In a letter, dated November 22d, he writes to me: "The doctor has a number of relatives in Buffalo, and, as I frequently see one or more of them, I am kept pretty well informed as to his condition. My latest news is so recent as last week, and to the effect that he is as well as ever."

It must be obvious that all new and important operations are followed by a progressive success in their results as the methods of operating are improved in their details and as the after-treatment necessary becomes better known.

The percentage of successful results increases in a ratio in proportion to the experience acquired by the increasing number of the operations. Indeed, I may add that it is my conviction that the progressive number of cures of this terrible curse to humanity is in a more rapid ratio than the progressive increase of the frequency of the disease.

Need I say more in the light of the past to point out what may be hoped for in the future from such a hospital as this, under the devoted zeal of the active staff, whose ability, competency, and faithfulness to their duty have already been demonstrated in other positions? Can any one have a doubt as to the probable service to humanity which will result from the careful observation and study by such competent men of details that can never be acquired except in a large hospital?

I question whether any, even the most sanguine, has more than a feeble conception of the benefit to the victims of the disease to be here treated, and to thousands of others, that will result from the opening of this hospital.

Original Communications.

THE PRESENT STATUS OF LAPARO-ELYTROTOMY,

WITH REPORT OF A SUCCESSFUL CASE.[*]

By W. DUNCAN McKIM, M.D.

It has often happened in the history of surgery that the merit of an operation of great value has been but slowly perceived by the profession. It has been markedly so with ovariotomy, and it is my conviction that we have another instance in the case of laparo-elytrotomy.

This operation was more or less definitely suggested by Joerg in 1800. It was first attempted by Ritgen, of Germany, in 1821, who, cutting a long incision in the vaginal wall with a sharp bistoury, occasioned such profuse hæmorrhage that he abandoned the operation and completed the delivery by the Cæsarean section with fatal effect. In 1823 Baudelocque, the "nephew," of France, read an enthusiastic paper upon laparo-elytrotomy, and, at some uncertain time later, attempted the operation, but, like his predecessor, was compelled to abandon it by reason of the vaginal hæmorrhage, which proved fatal. In 1843 he tried the operation again, and this time completed it, but the patient died from peritonitis. In 1857 Gianflome,[†] of Italy, performed the operation, but the child alone was saved.

When, in 1870, the long-forgotten operation was revived by Dr. T. G. Thomas, of New York, there seemed good reason for believing, despite the fatal first case, that in it would be found an effective check to the appalling mortality of the Cæsarean section. The second case, by Dr. A. J. C. Skene, of Brooklyn, in 1874, although also fatal, argued nothing against the operation's innate merit. Then came a series of triumphs: in 1875, a successful case for mother and child by Dr. Skene; in 1877, another such case by Dr. Skene, and one by Dr. Thomas. Following upon these, inclusive of the one presently to be reported, there have been up to the present time nine other cases of the operation, making in all fourteen cases within the past seventeen years, in which, of fourteen mothers, seven have been saved and seven lost, a mortality of 50 per cent.; while of the children, nine were extracted living, the others being dead, apparently, before the operation—but in this connection the mortality of the children has no value, since, as generally recognized by those who have operated, there is nothing in the operation to endanger the life of the child. This high maternal death-rate is much lower, as it stands, than that offered by the old Cæsarean section, which for the United States has been 60 per cent.,[*] for Great Britain 81 per cent., and 84 per cent.[†] for the civilized world at large; but when the individual cases of laparo-elytrotomy are brought under view, there is seen in them a far richer promise than the mere statistics show. Still, in spite of the excellent results given since its revival by Dr. Thomas, it is plain that the operation has not been widely accepted by the profession. It has been performed but eleven times in this country, twice in England, and once in France; while in Germany, where delivery by abdominal section would seem most frequent, the operation is ignored. Charpentier,[‡] in speaking of laparo-elytrotomy, says: "Notwithstanding the favorable results obtained in America, the operation has not been accepted in France, where the classic Cæsarean section is in high favor." Schroeder[#] wrote, in 1886: "Whether laparo-elytrotomy will continue to be a justifiable operation does not yet quite appear. However, the operation merits consideration." Zweifel,[‖] in his recent text-book of obstetrics, makes no mention of the operation at all.

Now, the question naturally presents itself as to why, if the operation is good, it should stand in such small favor. An answer is found, I think, in the following considerations: In our own country the opportunity for such an operation is very infrequent, there being on an average scarcely more than three[△] cases per annum suitable for the more widely applicable Cæsarean section, and, further, we can not but be influenced to some degree by foreign indifference. Yet, be it remarked in passing, laparo-elytrotomy has been performed eleven times in the United States in seventeen years, with but four deaths, a mortality of $36\frac{4}{11}$ per cent. In England, the two fatal cases in quick succession, in spite of their seeming hopeless when undertaken, would naturally have awakened a strong doubt as to the advisability of repeating the operation. The fatal ending of the one case in France, although not to be attributed to any inherent danger of the operation, must have had a like effect. The indifference of Germany is explicable when we remember that in 1876, when as yet there had been but three laparo-elytrotomies within the new era, two of which were fatal, a near neighbor—Porro, of Italy—performed successfully his modification of the Cæsarean section in a lying-in hospital where puerperal septicæmia was rampant, which success was followed in twelve days by another at the hand of Spaeth, in the Vienna General Hospital, where every Cæsarean section for the previous hundred years had terminated fatally. It was natural that the attention of German obstetricians should be centered upon the brilliant prospects offered by Porro, and that their work should then be expended along the line of improving the Cæsarean technique, rather than upon a doubtful operation heralded from across the seas. Then when, in 1878, laparo-elytrotomy was brought nearer home by its performance twice in England and, in 1885, once in France, the fatal termination of these three cases must have further alienated the operation from German esteem. But it must be remembered that in Germany, the operation not having been attempted, there can be no condemnation of it from personal experience.

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[*] Read before the New York Clinical Society, November 25, 1887.

[†] Parvin, "Sci. and Art of Obst.," Philadelphia, 1886, p. 669.

[*] Harris in Ashhurst's "Internat. Encycl. of Surg.," vi, 1886, p. 762.

[†] Zweifel, "Lehrbuch d. Geburtshülfe," 1887, S. 746.

[‡] Wood's "Cyclop. of Obst. and Gynæcol.," 1887, p. 215.

[#] "Lehrbuch d. Geburtshülfe," 1886.

[‖] "Lehrbuch d. Geburtshülfe," 1887.

[△] Harris, "Amer. Jour. of the Med. Sci.," lxxix 1880 p. 356.

Now, a few words as to the operations which have stood as obstacles to the acceptance of laparo-elytrotomy. The operation of Porro consisted essentially in the usual abdominal section, the incision of the uterus *in situ*, and the amputation of the organ above the cervix, after removal of its contents, the uterine stump then being fixed in the lower angle of the abdominal wound. The most recent statistics[*] which I have been able to find, for this operation and its modifications, give one hundred and sixty-four cases. Of these, in three the patients were moribund, and fourteen were cases of Veit's very fatal modification—the dropping back of the stump into the pelvis; deducting these, we have one hundred and forty-seven cases, with a maternal mortality of 56 per cent., 6 per cent. higher than that presented by laparo-elytrotomy. In 1878 Müller, of Berne, modified the Porro operation by turning out the uterus from the abdominal cavity before incision, thereby lessening the risk of infecting the peritonæum through entrance of uterine discharge and blood. Thirty-six cases of the Porro-Müller operation give a mortality of $47\frac{2}{9}$ per cent.—nearly 3 per cent. better than that of laparo-elytrotomy, as shown by bare figures. In 1880 Veit, of Bonn, modified the operation still further by ligating and dropping back the uterine stump; this method gave a very high death-rate—77 per cent. Since 1882, through the efforts of Sänger and Leopold principally, the technique of the Cæsarean operation has been so wonderfully improved and the mortality reduced to so marvelous a degree that there seems scarcely space for a rival; thus, seven operations in Leipsic saved seven mothers and seven children, and fifteen operations in Dresden saved fourteen mothers and fifteen children. The essential modifications which characterize the so-called Sänger operation are: (1) The turning out of the uterus from the abdominal cavity before incision of the organ, a pad of antiseptic material being placed behind it to prevent entrance of fluids into the peritoneal cavity and the escape of intestine; (2) the temporary ligation of the uterus by a rubber cord, just above its vaginal junction, to control hæmorrhage; (3) the closing of the uterine wound by a large number of sutures passing only through the muscular layer, and another set of sutures bringing the marginal surfaces of peritonæum together; (4) the strictest application of antiseptic principles.

The question, now, whether laparo-elytrotomy is to stand in high favor or to be relegated to the oblivion from which, at least for a time, Dr. Thomas has rescued it, will mainly depend, in these times, upon its comparison with the so-called Sänger operation alone, for that the Porro procedure, with its modifications, has greatly fallen from honor is shown by the consensus of opinion at a recent congress of the Deutsche Gesellschaft für Gynäkologie,[*] to the effect that the modified Cæsarean section, with suture of the uterus, should again hold first rank, and the Porro be reserved for exceptional cases, such as those complicated with uterine tumors, obstructed cervix, decomposing uterine contents, and the like. Let us, then, proceed to a comparison of the two operations—Sänger's, or the improved Cæsarean section, and the one known as Thomas's, or laparo-elytrotomy.

First, with respect to statistics. The Sänger operation for its first fifty cases has a mortality of 30 per cent.[†] while the mortality of laparo-elytrotomy for its fourteen cases is 50 per cent. But if we compare the fourteen laparo-elytrotomies with the first fourteen cases of Sänger's operation, we find that the Sänger death-rate is much larger than appears later—viz., 50 per cent.[‡]—precisely that of laparo-elytrotomy. It is fair now to allow that, as has occurred with the Sänger operation, a larger range of opportunity might lower the death-rate in the case of laparo-elytrotomy.

A comparison of the condition of the patients in the fatal cases at the time of operation, and the cause of death, will be instructive. Considering laparo-elytrotomy, we find that in the first fatal case the patient was *in articuló mortis* from a pneumonia of ten days' standing; the operation was done in the interest of the child; death took place in an hour. The second patient had been in labor for forty-eight hours; version had been attempted, and the head perforated; the pulse was over 130; death occurred in seven hours from shock and exhaustion. The third patient had been twenty-four hours in labor; she had extensive cancer of the recto-vaginal septum, fatty heart, and fatty liver; she had been confined to bed by debility for the previous eleven days, and for about forty-eight hours had vomited incessantly; death occurred in two hours from shock and exhaustion. The fourth patient was a flabby, unhealthy woman, with œdematous extremities; the forceps had been tried, when suddenly a large thrombus appeared in the right labium; death took place in forty hours from exhaustion. The fifth patient had been four days in labor; the forceps, version, and craniotomy had been tried; death followed in forty-four hours from exhaustion. The sixth patient had been in labor a week, although the pains not severe until the end; the operation was done in a crowded tenement-house; the patient was intoxicated with whisky by friends a few hours after the operation; death occurred from septicæmia in seventy hours. The seventh patient died on the fifth day from peritonitis, which was plainly shown by the autopsy to have had its origin in a tear of the peritonæum. This rent (of about one inch) was made through the peritonæum being accidentally caught by one blade of the forceps during extraction of the child. A loop of intestine prolapsed, which being replaced, the tear was closed by three catgut sutures. The dressing was antiseptic, but there was no attempt at drainage; the lochia, accordingly, must have had quite free access, by way of the vaginal incision, to the peritoneal wound. As there has been no other operation in which difficulty in dealing with the peritonæum has arisen, I think that we may regard a wound of this membrane as being hardly one of the inherent dangers of the operation, and the occurrence in this case should be regarded as an accident. Reviewing these cases again, it would seem that of the seven there was a chance of success in but two, which in the case fatal by septicæmia was very small by reason of the foul surroundings, in spite of a partial antisepsis, while in the case terminating by peritonitis the very fair chance was overset by an accident. Are we not justified, then, in erasing from the debit side of our record *all* of these deaths, or, if this is thought extreme, in allowing the septicæmic case alone to count against our operation? In commenting upon the first twelve cases of laparo-elytrotomy, Dr. Lusk[*] says: "In no one of the fatal cases were the conditions such as to render success a possibility." If we impute one death to the operation (one in eight cases), we have a mortality of $12\frac{1}{2}$ per cent., otherwise 0 per cent. The former percentage even is very much better than that of the first eight Sänger operations, as their statistics stand, presenting a death-rate of 50 per cent., and precisely as good as the mortality in Leopold's first eight Sänger cases, which likewise was $12\frac{1}{2}$ per cent. The causes of death in these laparo-elytrotomy cases were shock and exhaustion in five cases, septicæmia in one, and in one peritonitis.

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[*] Harris, quoted in Wood's "Cyclop. of Obst. and Gyn.," 1887.

[*] Zweifel, *loc. cit.*, p. 753.

[†] "Med. News," Philadelphia, March 26, 1887, p. 345.

[‡] See Harris's table, "Med. News," Philadelphia, July 17, 1886, p. 64.

If we seek the cause of death in the first seven fatal cases by the Sänger method we find[†] septic peritonitis in 4 cases, septicæmia in 1, double pyelo-nephritis in 1, and 1 from shock and previous loss of blood. But to be equally fair in our consideration of the death-rate of the first fourteen Sänger cases, we must analyze the causes of death as we have done for laparo-elytrotomy. We then find that in the first fatal case[‡] (Beumer's) the patient had a double pyelo-nephritis at the time of operation, and died in forty hours; the second patient[#] (Garrigues's) suffered from heart disease, had lost much blood before the operation, and died in fifty hours from shock and exhaustion; the third[‖] (Münster's) had been more than three days in labor, endometritis had already set in, and death occurred in four days from septic peritonitis, caused, apparently, by the spread of a diphtheritic endometritis, the autopsy showing, however, a satisfactory union in the uterine and abdominal wounds; the fourth[*] (Jewett's) had cancer of the cervix already invading the vagina, had suffered from frequent hæmorrhages, and died in forty-five hours from septic peritonitis, thought to be due to infection by erysipelas, at that time present in the hospital; the fifth (Drysdale's) had been rendered very anæmic by frequent hæmorrhage from a uterine myoma. The uterine wound in each of these cases was found satisfactorily healed, and the fact seems clear that the deaths were not directly due to the operation. But the next two deaths seem properly attributable to it: that of Ehrendorfer's patient,[†] and that of Leopold's,[‡] both brought about by septic peritonitis, the former on the sixth, the latter on the fifth day. Excluding, then, from the first fourteen Sänger cases the five in which death was not directly due to the operation, we have nine cases with two deaths, a mortality of $22\frac{2}{9}$ per cent., while, as already shown, the mortality of laparo-elytrotomy for the eight cases which should be considered is only $12\frac{1}{2}$ per cent. at the worst.

It is in place at this point to give a very brief description of the operation of laparo-elytrotomy, the details appearing more fully in the account of my own case. An incision is made from a point about an inch above the anterior superior spine of the right ilium to a point about an inch above and an inch and a half to the outer side of the spine of the pubes. The left side is preferred by some, in spite of the theoretical objection offered by the presence of the rectum. The tissues are severed until the peritonæum is reached, which membrane is then lifted until free access to the vagina is obtained. A slit-like opening is then made in the vaginal wall close below the cervix, and the child is extracted through the dilated external os, vaginal rent, and inguinal wound.

Now let us compare the dangers of laparo-elytrotomy and those of the Sänger operation, and here the former would seem to have decidedly the advantage. A very little slip in the observance of antiseptic precautions may increase the risk in laparo-elytrotomy, but in the Cæsarean section it is almost sure to cause a fatal peritonitis. In laparo-elytrotomy the incision through the abdominal wall is unattended by danger, the raising of the peritonæum is readily accomplished, the membrane being thickened and more loosely attached than in the non-pregnant condition. The opening into the vagina has never caused but slight hæmorrhage, the incision being small and afterward enlarged by tearing. The extraction of the child has never been difficult, except in Dr. Gillette's case, where the fœtus was putrid. Much has been said about the danger of wounding the ureter; but the accident has never occurred, the ureter lying well below the vaginal incision. The bladder has been slightly torn in five cases, during enlargement of the vaginal incision, and once accidentally cut by scissors; but these rents have quickly closed spontaneously, requiring but once to be sutured subsequently. Peritonitis has occurred once, but this was not a legitimate result of the operation. Septicæmia has occurred twice; in both cases it would seem to have been due to the particularly foul surroundings at the time of the operation; but in one case only was it fatal. Shock and exhaustion should occur to but slight degree if the operation were done early. The subsequent prolonged suppuration of which some objectors speak has seldom occurred, and has certainly had no share in the causing of death, the fatal cases having all terminated within five days. Of the seven cases of recovery, in two the wound was entirely healed in about two weeks, in one case in about five weeks, in two cases in about six weeks; in my own case the discharge had become very small in about eight weeks, the patient gaining very satisfactorily in every way, despite this drain upon her vitality; with respect to one case, the time of recovery has not been noted. The fact that the peritonæum and uterus are not incised, and the absence of danger to the child, are the strong points of this operation. Considering the Sänger operation, we find danger at once upon opening the peritonæum; the uterine incision presents danger from hæmorrhage and infection; the life of the child is endangered by the cutting off of its blood-supply through the temporary constriction of the cervix; the subsequent danger of peritonitis through leakage at the uterine wound is great; the danger of septicæmia is certainly as imminent as in laparo-elytrotomy, and there is a chance of secondary hæmorrhage. From these facts it would seem that laparo-elytrotomy presents fewer risks than its more highly esteemed rival.

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[*] "Science and Art of Midwifery," 1885, p. 445.

[†] Harris's table, "Med. News," Philadelphia, July 17, 1886, p. 64.

[‡] "Archiv f. Gynäkol.," 1882, xx, 409.

[#] "Am. Jour. Obstet.," 1883, xvi, 344.

[‖] "Ctrlbl. f. Gynäkol.," 1886, vi, 82.

[*] "N. Y. Med. Jour.," 1885, xlii, 231.

[†] "Archiv f. Gynäkol.," 1885, xxvi, 128.

[‡] "Ctrlbl. f. Gynäkol.," 1885, S. 123.

As to the time required for the operation, laparo-elytrotomy appears more expeditious. In the cases in which the time was noted the extraction of child and placenta was accomplished, respectively, in ten, fifteen, twenty-five, and thirty-five minutes; the subsequent steps in the operation—the irrigation, introduction of the drainage-tube, and abdominal sutures—should usually be readily accomplished within half an hour. Of the Sänger operation Dr. R. P. Harris says*: "It requires, on an average, one hour and a quarter to perform the operation, most of this time being expended in securing the wound against the possibility of leakage."

Other points to be considered in a proper comparison of the two operations are such as these: Through the opportunity for frequent repetition, some of the Sänger operators have acquired a degree of experience in the operation denied to those who have performed laparo-elytrotomy; most of the Sänger operations have been done in well-appointed hospitals, with a sufficiency of trained assistants, as, unless I am much mistaken, has not been the case with many of the laparo-elytrotomies. Then there seems to be, to some degree, a selection of the Sänger cases; thus, according to Dr. Garrigues,† Leopold substitutes the Porro operation when he thinks that infection has already occurred, or when the patient is a victim of carcinoma.

We must now come to the indications for laparo-elytrotomy. The operation is much less generally applicable in its very nature than the Cæsarean section. According to Dr. R. P. Harris,‡ it would have been impracticable in fifty-seven of the one hundred and thirty-four Cæsarean cases in the United States. It is proper in any case where the parturient canal is so narrowed or obstructed, from any cause, as to prevent delivery by the natural forces, the forceps, or version, provided that the obstruction is below the os uteri externum, it being obviously unsuited to those cases where the cervix is neither dilated nor dilatable. To this general statement there may be some exceptions. The exact relation of the operation to craniotomy is still hard to define, but when we look at the statistics of laparo-elytrotomy and the improved Cæsarean section, with a mortality from 0 to 12½ per cent., and then consider the fearful death-rate of craniotomy, from 12 to 40* per cent. in expert hands, we can hardly escape the conclusion that, in these days, craniotomy must be but seldom justifiable. It is probable, however, that with a more careful regard for antisepsis, the death-rate of craniotomy will improve.

Let me now present the following report of a recent case of laparo-elytrotomy:

At Newport, R. I., September 18, 1887, at 3 A. M., I was called in consultation by Dr. T. A. Kenefick. The patient was a young girl of sixteen years, in labor at full term, of Irish parentage, and unmarried. She was of slight and small build. From the age of eighteen months to about her eighth year she had suffered from disease of the left hip joint, for three years wearing some form of apparatus, and having had for the greater part of this latter period discharging abscesses, the scars of which are still apparent. From the eighth year her health began to improve, but she has always seemed delicate. During gestation she suffered no special discomfort, and seemed cheerful while her pregnancy was undiscovered. At about the fifth month she was taken by her mother to Dr. Kenefick, who pronounced her pregnant, from which time she sank into a condition of gloom, occasioned by the discovery, and kept herself in close seclusion at home.

At about 2 A. M., September 17th, labor-pains began, and Dr. Kenefick now saw the patient for the second time. The membranes ruptured early in the forenoon, and the pains became strong, but the cervix dilated slowly. At 10 P. M., the head being still above the brim, puerperal convulsions set in. These were controllable only by profound etherization. Several times, the ether being discontinued, the convulsions recurred with full force, there being in all eight distinct attacks. During the first administration of ether Dr. Kenefick endeavored to apply the forceps, but for some time, through the spastic rigidity of the uterus, by which the head was firmly pressed against the pelvic brim, the application was impossible; but at about 1 A. M. the forceps was duly in position, the head being still above the brim, and traction was begun, and, with slight intermissions, continued for two hours, when I was called in consultation. Coming at 3 A. M., I also tried traction with the forceps, but, finding it impossible to bring the head within the brim, considering the small caliber of the pelvis, and version being out of the question, through the long previous escape of the waters and the tonic spasm of the uterus, I counseled craniotomy. The conjugate of the brim, as nearly as could be determined at the time and later, was somewhat less than three inches; the distance between the anterior superior spines of the ilia was eight inches, and that between the middle points of the crests of the ilia was eight inches and a half. This smallness of the pelvis was due, doubtless, to non-development by reason of the early hip disease. The child was perhaps still living, the fœtal heart having been heard an hour previously, and, the family being Roman Catholics, craniotomy was not to be permitted. To settle the matter to the satisfaction of the relatives, the family priest was sent for, who, in the name of the Church, refused to allow the craniotomy. On being told that the child was probably already dead, he replied that unless we could be absolutely sure of its death, the Church would still refuse to allow the operation, as otherwise sanctioning a possible murder. I then proposed laparo-elytrotomy, and, this meeting with the approval of Dr. Kenefick, the priest, and the family, I set about making my preparations, and at 7.15 A. M. was ready to begin the operation. At this time the patient had been in labor twenty-nine hours, had had eight distinct attacks of convulsions, had been profoundly under the influence of ether almost constantly for nine hours, and had been subjected to the forceps traction for more than two hours. She had had also, by the rectum, forty grains of chloral and about a drachm of bromide of potassium. For about nine hours the uterus had been in rigid contraction; vomiting was frequent; the axillary temperature was slightly above 100° F., the pulse 150, and scarcely perceptible. The cervix was fully dilated. An examination of the urine the previous day had shown a moderate quantity of albumin. The habitation of the patient was very foul, and the attic-room in which the operation had to be performed was very small, with a sloping ceiling, containing two dirty double beds, which so filled the room that there was scarcely space for a table to operate upon. The light was obtained from one small window. The water provided for the purposes of the operation was of very doubtful appearance, and served in a dirty pitcher.

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* "Med. News," Philadelphia, July 17, 1886, p. 63.

† "Am. Jour. of Obstet.," 1886, xix, p. 1009.

‡ In Playfair's "Sci. and Pract. of Midwif.," Amer. edit., 1885, p. 534.

* Parry, "Am. Jour. of Obstet.," v, 1872, p. 644.

Operation.—The patient was placed upon her back, the body and extremities were well wrapped in blankets, hot bottles were applied, several hypodermics of whisky were given, and the etherization was continued by an old Irish woman. Dr. T. A. Kenetick and Dr. William C. Rives, Jr., both of Newport, kindly acted as assistants. The instruments were placed in a 1-to-20 carbolic acid solution, and aseptic sponges in a 1-to-40 solution; the patient's skin about the seat of operation was well scrubbed with soap and water, then with a 1-to-1,000 corrosive-sublimate solution; and the pubes was shaved. The hands of the operator and assistants were likewise well washed and brushed with soap and water, and then with the 1-to-1,000 solution. Towels wet with the same solution were placed over the parts adjacent to the site of operation. The same solution was then used for irrigation of the vagina. The usual incision, parallel to Poupart's ligament on the right side, was now made. The skin, fasciæ, aponeurosis of external oblique, and the internal oblique and transversalis muscles were divided; then the transversalis fascia. On cutting through the skin, the underlying fascia was found very œdematous. This part of the operation caused extremely little hæmorrhage. The peritonæum was very easily separated from the transversalis and iliac fasciæ. To recognize the position of the bladder a metallic catheter was now passed into the urethra, but it was quite impossible to feel it through the inguinal wound, the head being pressed so firmly down upon the pelvic brim. For the same reason, for a few minutes, a vaginal electrode, introduced into the vagina for the purpose of causing the lateral fornix to bulge into the wound, could not be recognized. Soon, however, through strong traction upon the uterus upward and to the left by Dr. Rives, and direct upward pressure upon the child's head by myself, through the wound, the electrode became easily felt. A Paquelin's cautery was now brought into requisition, to make an opening in the vaginal wall, but, through the continual pressure of the head, the vaginal fornix lay so low in the pelvis and the light was so poor, that I deemed it more prudent to abandon the cautery. I then, with pointed scissors, scratched a hole in the vaginal wall, the electrode supplying counter-pressure. Passing a metallic catheter, by way of the vagina, through this hole and oscillating it, I enlarged the opening sufficiently to thrust the electrode through, and then, by means of the two index fingers, the orifice was enlarged, tearing as nearly horizontally as possible and as far backward as the wound would allow. In this way a rent of about three inches was obtained, the further enlargement of which I thought it safer to leave to the emerging fœtal head. This tear in the vagina was made as high in the fornix as possible, to avoid possible injury to the ureter. The hæmorrhage caused was very slight. Through the vaginal rent the fingers were now introduced and the child's head was grasped, but a satisfactory hold could not be obtained, and it became necessary to deliver by the forceps, which was very readily accomplished, the uterus meanwhile being compressed upon the escaping child, which was born dead. The cord was pulseless and flaccid, death having occurred, it would seem, some considerable time before. The fœtal heart had been last heard about eight hours previously. Fruitless efforts at resuscitation were made. The child was not weighed, but, as nearly as we could estimate, seemed of about eight pounds. In about ten minutes the placenta was expressed by the method of Credé, following upon which there was but the usual amount of hæmorrhage. A solution of the official extract of ergot was then injected hypodermically. Meanwhile the pulse had been growing feebler and several hypodermics of whisky had been given, but almost immediately upon extraction of the child a marked improvement in the rate and force of the pulse became noticeable, and our fear that the patient would die upon the table was dissipated.

During the operation the wound was frequently irrigated with a 1-to-4,000 sublimate solution, which was now employed to wash out thoroughly the cavity of the uterus and vagina. Three rubber drainage-tubes, of about a half-inch caliber, about six inches long, and provided with the usual lateral holes, were now passed, by way of the vagina, into the inguinal wound, where they lay side by side, the upper ends projecting from the inguinal wound, the lower resting in the vagina. The external wound was closed with five deep and several superficial sutures about the drainage-tubes. After final irrigation, a dressing of iodoform gauze was applied, also a pad of the same to the vulva.

The after-progress of the patient toward recovery has been extremely interesting, but time demands that merely the salient features be here given. The patient was removed to her bed, where she remained about six hours, when she was taken to the Newport Hospital. Two hours after the operation she became very restless, requiring two hypodermics of Magendie's solution, of ♏v each. Slight vomiting occurred once or twice.

P. M.—Temperature 102·4° F., pulse 130. Small quantities of urine were voluntarily passed from time to time during the afternoon; but, to combat the renal congestion presumably present after so prolonged an etherization, a large linseed-meal poultice was applied every three hours to the loins. In the evening the dressing was found saturated with the lochial discharge, the vulvar pad being dry. The wound was irrigated with the 1-to-4,000 sublimate solution, which passed freely through the drainage-tubes, and escaped by the vagina.

September 19th.—A. M., temperature 99·5° F., pulse 120; P. M., temperature 102·5°, pulse 138. Urine to the amount of twenty-six ounces was drawn in the morning, showing that the bladder had not been torn. The lochial discharge was still entirely through the inguinal wound; a large rubber tube, with lateral holes, in the vagina did not materially relieve this condition, which has continued throughout the greater part of the subsequent convalescence. Patient feeling quite comfortable.

A dose of antipyrine, gr. x, was given in the evening, instead of acetanilide, by mistake of the druggist, causing great depression and profuse sweating.

20th.—Left parotid gland beginning to swell.

21st.—Swelling of parotid has increased; pus sought in two places by hypodermic needle without success. Abdominal wound has become offensive; stitches removed, and the outermost of the three drain-tubes, as it could not be cleared. Wound very sloughy and foul. Irrigation with three gallons of 1-to-2,000 sublimate solution, until the fluid became perfectly clear, twice daily; discharge abundant. Iodoform freely dusted into the wound. The general improvement, not only in temperature and pulse, but in the patient's feelings, is such after each irrigation that she has come to cry for it often during the day. Catheterization is now found necessary, and, the urine being foul, the bladder is washed twice daily.

22d.—Breath sweetish; eight diarrhœal dejections and very offensive; profuse perspiration constant; occasional vomiting. Wound now most foul and gangrenous, large black shreds coming away from the wound and the vagina by irrigation, until about five gallons of sublimate water had been used.

23d.—Eleven watery dejections; still profuse perspiration; no pus yet in the parotid; restless delirium; pulse has been running at 160 for several days; temperature oscillating between 99·5° and 102° from time to time during the day; the case apparently hopeless; but the stomach still in fair condition.

24th.—A faint pink blush is appearing at the inner angle of the wound, where a black slough has been thrown off. Parotid swelling has entirely disappeared during the night; diarrhœa less. In the evening, during delirium, the patient leaped out of bed and stood for several minutes. Sweating has ceased.

25th.—The healthy blush in the wound is extending rapidly and the sloughs are disappearing. In spite of local improvement, the general condition is growing worse, as shown by increasing feebleness of pulse, greater restlessness, and more constant delirium.

26th.—The constantly increasing restlessness not being controlled by morphine, bromides, camphor, chloral, etc., which seemed decidedly to increase the depression, a cylinder of Walton's oxygen mixture was obtained (oxygen 2 parts, nitrogen 1 part), and the gas constantly inhaled, the end of the tube being gladly held in the mouth by the patient herself when conscious and by an attendant at other times. The relief from the oxygen seemed very marked; the delirium abated, the pulse grew less frequent and stronger, and the rate of respiration fell. The gas was now used as constantly as possible for about ten days, sixteen or seventeen cylinders (nominally of two hundred gallons each) having been used.

In view of the frequent discussions as to the therapeutic value of oxygen, this point in the history is of considerable interest. But time will permit my saying merely that, of the many remedies used to relieve the restlessness and strengthen the heart, none seemed at all effective except the oxygen. Repeatedly during the ten days the supply gave out for a few hours, and on every such occasion the patient grew rapidly worse, and when once deprived of the gas for about eighteen hours, she sank so low that I despaired of her recovery. The expensive character of the gas made it a matter of importance that its use should cease as soon as it became ineffective, but the beneficial effect was so apparent, not only to myself, but to Dr. Kenefick and the nurses in attendance, that the trustees of the hospital, after considerable deliberation, resolved to have it employed as long as seemed needful. Two cylinders of Gladstone's pure oxygen were used also, and apparently with equally good effect.

September 27th.—There is general improvement in every way, except now a strong tendency to bed-sores, in spite of all precautions. The nurse having left the room, the patient was found sitting up in a chair at the other side of the room; there was great temporary exhaustion as the result.

STATISTICS OF LAPARO-ELYTROTOMY.

No.	Operator.	Place.	Date.	Age	Conj. diam.	Cause.	In labor	Condition.	Result to mother.	Result to child.	Cause of maternal death.	Time of recovery.	Side.	Injury to bladder.	References.
1	T. G. Thomas.	New York.	March, 1870.	40	Norm'l	Pneumonia.	Not.	Moribund.	Died in 1 hr.	Lived 1 hr.	Pneumonia.	......	Right	No.	"Am. Jour. Obst.," '70, iii, 131.
2	A. J. C. Skene.	Brooklyn	Mar. 22, 1874.	...	2½ in.	Rhachitic pelvis.	48 hrs.	Unfavorable	Died in 7 hrs.	Dead.	Sh'ek & exh'stn	......	"	"	"N. Y. Med. Jour.," '74, xx, 401.
3	A. J. C. Skene.	"	Oct. 29, 1875.	31	2¾ in.	"	11 hrs.	Favorable.	Recovered.	Saved.	......	2 wks.	"	Torn.	"Am. Jour. Obst,," '76, viii, 636.
4	A. J. C. Skene.	"	June 23, 1877.	37	1⅕ in.	Lordosis.	4 days.	Unfavorable	"	Lived 18 days	......	6 wks.	"	"	"Am. Jour. Obst.," '77, x, 623.
5	T. G. Thomas.	New York.	Dec. 3, 1877.	20	2¾ in.	Deformed pelvis.	16 hrs.	Favorable.	"	Saved.	......	5 wks.	"	"	"Am. Jour. Obst.," '78, xi, 240.
6	T. W. Hime.	Sheffield, Eng.	July 14, 1878.	37	Norm'l	Cancer of recto-vag. sept'm.	24 hrs.	Unfavorable	Died in 2 hrs.	"	Exh'stion.	......	Left.	No.	"Lancet," '78, ii, 656.
7	A. W. Edis.	London, Eng.	Nov. 23, 1878.	20	2½ in.	Small pelvis.	17 hrs.	"	Died in 40 hrs.	"	"	......	Right	Torn.	"Brit. Med. Jour.," '78, ii, 798.
8	W. R. Gillette.	New York.	Nov. 9, 1879.	23	1½ in.	Deformed pelvis.	1 week.	"	Recovered.	Putrid.	......	......	"	No.	"Am. Jour. Obst.," '80, xiii, 98.
9	N. P. Dandridge.	Cincinnati.	May 17, 1883.	32	2¾ in.	"	4 days.	"	Died in 40 hrs.	Dead.	Exh'stion.	......	Left.	"	"Jr. Am. Med. Assoc.," '83, i, 167.
10	C. Jewett.	Brooklyn	Sept. 1, 1883.	40	2¾ in.	"	1 week.	"	Died in 70 hrs.	"	Septicæmia.	......	Right	"	"Trans. Am. Gyn. Soc.," '85, x, 344.
11	A. J. C. Skene.	"	Oct. 4, 1884.	21	2 in.	Rhachitic pelvis.	8 hrs.	Favorable.	Recovered.	Saved.	......	2 wks.	"	Cut by sciss'rs	"Annals of Surgery," '85, i, 25.
12	C. Jewett.	"	Jan. 26, 1885.	24	4½ in.	Lordosis.	22 hrs.	"	"	"	......	6 wks.	"	Torn.	"Trans. Am. Gyn. Soc.," '85, x, 344.
13	J. Poullet.	Lyons, France.	Feb. 6, 1885.	26	2½ in.	Rhachitic pelvis.	12 hrs.	"	Died on 5th day	"	Peritonitis.	......	Left.	No.	"Contribut. à l'étude de la laparo-elyt." A. S. Clarke.
14	W. D. McKim.	Newport, R. I.	Sept. 18, 1887.	16	3 in.	Small pelvis.	29 hrs.	Unfavorable	Recovered.	Dead.	......	......	Right	"	....

29th.—The left parotid is swelling again in the posterior inferior portion. There is a bed-sore on the left shoulder.

30th.—The parotid abscess was opened and treated antiseptically; likewise an abscess over the internal condyle of the right humerus. The early appearance of bed-sores being thought due, possibly, to iodoform—as well as the continuance of the rather peculiar delirium—the use of it was discontinued. (As bearing upon this point, see an interesting paper by Dr. R. W. Taylor.*)

October 2d.—Opened a second abscess in the parotid, in the anterior superior portion, unconnected with the earlier one, which has been freely discharging. No more tendency to bed-sores. General improvement.

4th.—A second drainage-tube removed.

12th.—Leaving Newport, I consigned the patient to the care of Dr. Kenefick, under whose prudent management she has since almost completed a very satisfactory recovery.

By way of summary, I should say that the temperature never rose higher than 102·5° F., for the first two weeks ranging between 99° and 102°, then gradually becoming normal by the fourth week; a few days later the evening temperature became 100°, and so remained for about two weeks. The pulse-rate for the first three days was about 130, for the next four about 160, during the second week 130 to 150, in the third week quite steadily at 140, then sinking to the normal, to rise afterward with the temperature rise spoken of. The discharge through the inguinal wound was very profuse for several weeks, but the greater part was doubtless lochial, which scarcely escaped at all by the vagina. The patient several times incurred serious risk of fatal syncope and prolapse of abdominal viscera, through getting out of bed and walking across the room, although tied by her arms and ankles and by a sheet passing over her abdomen and thighs. Once she was found with her head and shoulders on the floor, the feet being still securely fastened in the bed. Apart from these little episodes, which it seemed almost impossible to prevent, the nurses being overworked at the time, the nursing was most excellent.

The treatment consisted essentially in the thorough irrigation of the wound and vagina with antiseptic solutions, the uterine cavity also being washed for several days; the use of milk and lime-water, and Reed and Carnrick's liquid peptonoids, large quantities of alcoholics, and tincture of chloride of iron, the almost constant inhalation of oxygen for about ten days, and, during the diarrhœa and sweating, lead acetate and aromatic sulphuric acid.

There was no sign of peritonitis at any time, and the one danger was that from septicæmia, which from the first was what I had most feared, from the filthy condition of the surroundings during the hours when vaginal examinations were being made and the forceps applied, and again during the operation. This constitutes the eighth case of the operation in which the bladder has not been injured. The patient was the youngest subject of laparo-elytrotomy by four years.

Believing that, by reason of the exhaustion, the difficulty of preserving asepsis amid such surroundings, and the scarcity of assistants, nothing could have saved the life of this girl but laparo-elytrotomy, if a case with similar conditions were presented to me again, waiving craniotomy and the Cæsarean section, I should, unhesitatingly, again do a laparo-elytrotomy.

In conclusion, I would add that the object of my paper is not to decry the new Cæsarean section, but to show that laparo-elytrotomy has an equal claim to the confidence of the profession, and that where the obstruction to delivery lies below the cervix uteri it should be preferred to the former operation, for it is simpler, requiring usually less time and skill for its performance; it can be done with hope of success in a later stage of exhaustion; it would seem, on *a priori* grounds, less dangerous for mother and child, and, when the statistics are fairly weighed, it has as small, if not a smaller, mortality.

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* "N. Y. Med. Jour.," Oct. 1, 1887, p. 367.

THE USES OF THE AMNION.*

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Among the first stages in the process of embryonic development is an arrangement by which the nutrient material contained in the ovum is inclosed in a membrane, the yolk-sac, and maintained in relation with the digestive cavity, to be absorbed by it as the growth of the embryo requires.

While the pabulum of the embryo is thus carefully guarded, on the one hand, by being inclosed in its own membrane, it is further fortified against contamination by the contrivance of a second sac, so situated that certain deleterious excretions of the embryo may be passed into it and then separated by a double wall from the store of nutriment. This second membrane is the amnion, and the inclosed fluid, consisting in part of the exhalations of the embryo, that otherwise would vitiate the nutritive materials provided for its sustenance, is known as the liquor amnii.

In the very limited references to this subject to be found in the current standard works on physiology we are told that the office of the liquor amnii is to secure for the young animal *in utero* an equable temperature, to protect it from shocks of sudden violence, and to aid in dilating the mouth of the uterus at the time of birth. All these offices undoubtedly it fulfills in the higher animals, but in the lower animals, that is, in the incipiency of its development, none of these functions could have operated in bringing about its structural evolution; for, not to mention the mucoid mass surrounding the germ in the seed of the plant, that is so analogous to the amnion of animals at the period of its earliest tracings that the same name has been given to both, the typical amnion is developed in the eggs of birds, fishes, and reptiles, where it neither protects the embryo from violence, regulates its warmth, nor opens for it the mouth of the parturient uterus. One office, however, it does perform, and this one only—namely, the collection of such deleterious substances as are exhaled from the body of the embryo, and the prevention of their injurious influence on its proper pabulum. It is but reasonable, then, to conclude that originally this was its only function.

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* Read before the Louisville Medico-chirurgical Society, October 7 1887.

In the progress of the development of animal life there sprang up from time to time many other offices to which Nature could adapt and devote it, among them those already mentioned; and to the performance of these offices Nature did adapt it, for she seems to delight in economizing her resources. In the development of life she has modified the cell to the accomplishment of a thousand purposes. In plant life the leaf has been metamorphosed into the flower, and then into the fruit. It is ever her custom, when once she has devised a useful implement, not to throw it away and create another when a new work of a slightly different kind is to be performed, but she alters it, and fits it for the new purpose. So with the waste-bag, the amnion, and its contents, the liquor amnii; numerous important tasks were to be done before animal life should reach its summit to the accomplishment of which she could adapt this structure and this material. In addition to the offices already named to which they could be devoted was most likely also the prevention of deformities by supplying a water-bed in which the young might be freely developed.

But it so happened that if during parturition the young of mammalian quadrupeds came into the world presenting their hinder parts, the stimulus of the air would incite breathing before the head could have time to escape, and a greater number would perish during birth than when the head preceded. But how was this difficulty to be obviated? Mainly by regulating the amount of liquor amnii. If thrown into water, a calf or pig, even immediately after birth, will, by using its feet just as it does in walking, lift itself to the surface and proceed to swim.

Now, the outlet of the uterus in quadruped mammalia, whether the mother is lying down in the customary way or standing up, is higher than its body. The young quadruped, therefore, by its instinctive walking movements swims head foremost upward to the outlet, and is usually born in this position. But when the highest mammal, the human being, was reached, the conditions became changed. Here the outlet of the uterus when the mother is standing is lower than the body, and to a less extent lower even when she is lying on her back. Yet it is a matter of much greater importance that the human young should be born head first than that the young quadruped should be so born. Will not Nature still find some means by which the structures that have served so long shall still serve and accomplish her purposes? Very easily she does so. A sufficiently early development of the legs, the folding of the arms of the fœtus *in utero* in such a way as to prevent them from being efficient in swimming movements, and at the same time the acquirement by the uterus of a progressively increasing conicalness of the lower segment as gestation advances, furnish the modifications required for the altered conditions. While, as we have seen, the instinctive and natural walking movements of the young quadruped carry it upward to the maternal outlet, it is equally well known by all those who have made a practice of diving in deep water that, if the arms are not used while the individual kicks out with his feet, he moves direct and head foremost to the bottom. So the child *in utero*, not using the poorly developed arms to any practical extent, but often making much use of the legs, while swimming in the water of the amnion, with great uniformity dives downward to the outlet and is born head foremost.

During the first five or six months of pregnancy it is not material which extremity of the fœtal ovoid should first present, for, even if born alive, at this early period the child would seldom be viable. So it is not important that up to this time provision should have been made for its coming head first into the world. The womb is therefore still left spherical in shape, and the movements of the child are limited. During these months, then, as might be expected, children are born as often, or nearly as often, with one extremity presenting as the other. But thenceforth provision is more carefully made. The uterus now becomes more and more conical in its lower segment. If the fœtus, by reason of its diving movements, gets the head into this conical space, it is easily kept there; for the force which put it there still operates, and any slight movements of the arms that may be possible are not likely to displace it.

If, however, the breech should get into this segment, the extension of the legs, which is the most constant and natural movement of the fœtus, will increase the diameter of that extremity of the fœtal ovoid and lift it out. If the head is excessively large, a considerable proportion of such children as possess this peculiarity will present by the breech at birth. It is probable, furthermore, that hydrocephalous fœtuses do not exert such active swimming movements during uterine life as those that are healthy and vigorous. Likewise, if there is a great excess of the amniotic fluid, as in hydramnion, even after the child has dived and placed itself head downward, it will fall over to one side or the other as soon as it ceases to use its legs; and, labor coming on at such times, it will be liable to present by the breech.

Dead fœtuses also, having no power of motion, will have only the advantage of the conical shape of the lower segment of the uterus to enable them to retain the position assumed during life, and are almost as likely to present by one extremity as the other.

All these supposed results are not only borne out by reason, but the most carefully kept statistics go to prove that what we have shown ought to be expected does in fact take place, even if not in the way and from the causes herein indicated.

But the destiny of the amnion with its contained fluid is not yet fulfilled. The fœtus is to be expelled from the uterus. It is well known, and has been for a long time proclaimed, that the liquor amnii aids in dilating the os during parturition. But it aids also in the expulsion of the fœtus in a way that hitherto, perhaps, has not been described. If a toy balloon be fully expanded with air, its form becomes almost exactly spherical, and this is also the shape of a well-blown soap-bubble. And why? Because the sphere incloses the largest space possible for a given amount of investing membrane. Cause the balloon or the soap-bubble to take any other shape, and it will contain less; a part of its contents must escape. Now, upon this principle is based in a great measure the mechanism of expulsion. If we constrict the middle of our balloon with a strong cord, we both cause it to depart from the spherical toward the cylindrical shape, thus reducing its capacity, and also act upon the contents on either side of the constricting band with that form of mechanical power known as the wedge. In this case only the lower wedge can overcome the resistance offered, and it alone will be expelled. If, however, the contents of the balloon were solid, and especially if its walls were free from unctuous covering on the inner surface, such constriction as has been described, and such as the uterus, by reason of its circular contracting band, experiences, would not exert an expulsive force, but would only cause the contents to be retained with greater tenacity. Now, encircling the body of the uterus, Nature has placed a band of strong muscular fibers whose contraction, by constricting the cavity of the uterus and removing it from the spherical toward the cylindrical shape, acts upon its practically fluid contents at either extremity as upon a wedge. This opens the os rapidly, and, as soon as the child's head enters it sufficiently, it is forced out like the stopper from the mouth of a leather bottle upon which pressure is made. For the accomplishment of this end the muscular substance has been thinned at the fundus of the uterus as well as at the cervical position. If the muscle at the fundus were as thick as that at the middle of the uterus, very little departure from the form of the sphere could be made by contraction, and the wedge action would be lost.

Another curious and very refined principle is here brought into play. Every one who has practiced gymnastics is aware that in performing what is called chinning the bar he may, on becoming somewhat exhausted, rise part of the way to it, and then find himself unable to rise higher. Yet he may be able to hold himself suspended with bent arms, even after several pounds' weight have been attached to his body. Likewise, teamsters know that in driving a heavy load up a steep ascent, the team, exerting itself to the utmost, may come to a dead halt without the power to move an inch farther, while yet it would take much force to start the wagon backward in opposition to the power of the team. So the thin muscles at the fundus of the uterus, in ordinary contraction, are made to hold, even after they can no longer contract against the force of the circular fibers.

During ordinary pains, therefore, the uterus is diminished in its short diameter without being increased in its long diameter, but under the action of a strong pain, when there is much resistance, the thin fibers of the fundus give way before the power of the circular band and the fundus of the uterus rises in a marked degree.

Herein lies the philosophy of the existence of the circular contracting band. If the power of the muscles were equally distributed, if the muscle were everywhere of equal thickness, the holding capacity referred to could not be utilized. This may be illustrated by, say, four men attempting to slide a heavy timber upward upon skids placed under either end of it. If the men are placed two at either extremity of the beam, they might not be able to move it; but if a single man is placed at one end he might prevent it from slipping back while the three others easily advance the opposite end. This thinning of the muscular fibers at the fundus of the uterus, with their collection into a thick band about the body, is a provision for economizing the power represented by the difference between the measure of force against which a muscle can contract and that of the additional force before which it must give way.

The fœtus having once fully opened the way, dilatation having been fully accomplished, the abdominal muscles take up the cue, and, by continuing to remove the form of the uterus still further from that of the sphere, on the same principle of the mechanical power of the wedge, complete the expulsion. The lumbar muscles also, by their contraction, curve the abdomen forward and increase the tension of its walls, thus making large contributions to the expulsive forces, receiving, doubtless for this purpose, the reflexes excited by the irritation of the cervix and lower part of the passages.

But not even yet has Nature done with and dismissed this by-product of gestation, the liquor amnii. If the fœtal ovoid be divided longitudinally into two halves, an anterior and a posterior, the posterior will, in all likelihood, be found the heavier. Since the abdomen of the mother is more or less pendulous while she is in the erect position, this heavier posterior part would naturally gravitate, and become the lower and anterior part. This would result in a great preponderance of anterior vertex presentations. It is true the mother during gestation, as at other times, must spend a considerable part of her time lying down, and while on her back the tendency referred to would not exist, but rather the contrary. But as long as the mother lay on her side the position of the fœtus would not be affected.

It may be that the position of the fœtus, with the occiput to the front, is caused in some measure by accommodative movements, which result in adapting the anterior curve of the body of the fœtus to the sacral convexity of the spine of the mother; but in lower animals, where the relative shape of the parts is the same, the *spine* of the fœtus is in relation to that of the mother.

This occipito-anterior position of the child at the time of birth is much the most favorable one for both mother and child, and the way in which it is secured is a matter worthy of careful investigation. We have already considered how the child comes to present by the head, and how the presentation with the occiput placed anteriorly is usually brought about. Now, it seldom happens that the occiput of the child is directed exactly to the front while situated high up in the uterus; for the spinal column of the mother, projecting into the cavity of the pelvis, pushes the face either to the right or to the left, and the occiput is thereby turned correspondingly to the opposite side. Since the rectum, which may be much of the time distended, lies to the left of the mesial line of the vertebral column, the face is pushed oftenest to the right side, and thus is brought about the large preponderance of left anterior positions. And here it may be noted in passing that the anterior concave caused by the forward curve of the child rarely embraces the convexity of the spine of the mother, but is directed to one or the other side.

Now, seeing that the head of the child is elongated from before backward, and the inferior strait of the pelvis is largest in the antero-posterior diameter, it would be no matter of surprise if, in passing through the pelvis, the occiput in right and left occipito-anterior positions should turn directly to the front, for, by such a movement, the longest diameters of the fœtal head and of the pelvic outlet would be put in correspondence.

But in a certain proportion of cases, at the beginning of labor the occiput lies to the back of the pelvis, and yet, as a rule, it rotates nevertheless, and, describing nearly half a circle, passes out to the front. The forces which operate to effect this rotation have long been a matter of attentive study and curious interest among obstetricians, and the question seems to me to have reached as yet no satisfactory conclusion. No apology is needed, therefore, for adding one more to the numerous attempts at explanation already made. In this attempted explanation, it is true, the amnion plays only a minor part, yet a sufficient part, it is hoped, to justify its introduction as one of the factors in rotation.

Any one who will examine a fœtus at birth will find that the back part of the head presents a more even outline and a less resisting surface than the fore part. The back part has no marked prominences, but, as a rule, easy inclines. In addition to this, the occiput is apt to be covered with hair, which enables it to retain the unctuous vernix caseosa, constituting altogether an easily gliding surface. On the other hand, the face presents the angularities of the two sides of the forehead, the cheeks, nose, and chin. The surface is also free from hair, a condition which renders it easy for the vernix to be stripped off, thus greatly increasing the amount of resistance.

To render these conditions effective as an explanation of rotation, we have to assume that the posterior part of the maternal passages is the line of least resistance, and offers less obstruction to the passage of the fœtal head than the anterior part. I repeat, we have to assume this, for, in so far as I am advised, it has not yet been proved nor generally admitted. However, we all know that the pubes and the short pubic curve do offer a marked resistance to the passage of the fœtus. The short turn makes it difficult for the fœtal head to glide over obstructions, just as the small wheel of a wagon passes over obstructions with greater difficulty than the larger one. The pubic curve here represents the smaller wheel, the sacral curve the larger one. This assumption being allowed, we come easily to our explanation. It is an established principle in physics that a force moves along the line of least resistance. Both the sinciput and the occiput of the child will seek to move along this line; both the face and occiput attempt to turn to the sacrum of the mother. But, as the face is the roughest and most resisting part, it will seek that easier path with the greater degree of force, and will thus compel the occiput to turn to the front and to travel the more difficult path beneath the pubes. Or, to put it more correctly, the most resisting part, the face, is forced away from the most resisting part of the passage, which is the pubic curve, and so it turns to and passes down the sacral portion of the canal.

In many labors this opportunity of election lasts through a considerable period of time. The head of the child during labor is pushed forward by a pain, and while it is advancing the rotating force continues in operation. In the interval after a pain the head may recede nearly as much as it had advanced during its continuance, but, as the recession takes place through a part of the canal that has not only been dilated but is maintained in dilatation by the head of the child, no corresponding counter-rotation takes place during such recession. The part of the passages from which the head recedes will contract during the withdrawal, and when the head again advances the rotating force will come again into play, and in this way the head may travel a great distance under the influence of the rotating force, while yet making comparatively little advance in the passages.

It is obvious on reflection that, if the pelvic outlet is large in proportion to the head of the child, sufficient resistance will not be offered to compel rotation; on the other hand, if the head of the child is relatively very large, or the maternal parts to be displaced in rotation are extremely rigid, less force will be required to push the face under the pubes than to rotate it, and the child will consequently be born in the occipito-posterior position.

The amnion, having already performed nearly all the duties of its office, having subserved nearly all of its uses, does no more in the movements of rotation than to enable the part of the fœtus that may remain in the uterus to rotate more freely than would be possible if the water were absent and the uterus grasped the body of the fœtus closely. In reference, then, both to rotation and expulsion, it is plain to be seen how important it is that the amnion should not be ruptured too early in labor—not until the head has become engaged in the cervix and imprisoned the waters in the uterus as completely as possible.

It is hardly necessary to add that the quantity of the liquor amnii is regulated by the requirements of the functions it habitually performs, and, if so regulated, any excess must be removed by absorption. It is not likely that this takes place through the skin of the fœtus, but either through the cord or the tissue of the parietal amnion.

It is clear also that where there is too much or too little amniotic fluid the offspring is apt to perish at the time of birth; and thus it appears that the evolution of the amnion, with its fluid regulated as found in the history of intra-uterine animal life, presents a new and striking instance of the survival of the fittest.

A Diphtheria "Cure."—The "British and Colonial Druggist" says that "an individual residing at Munich, who styled himself the 'Diphtheria King' and who professed to cure diphtheria in children by the administration of magnetized water, was recently tried for fraud, a child having died after taking six bottles of the water. He was acquitted on the ground that, though medical men did not believe in the magnetic treatment, other persons did."

Is Cancer Contagious?—"M. Duplouy, of Rochefort," says the "Lancet," "reports a case where a man, who had for a long time carefully nursed his wife, who was suffering from uterine cancer, became affected with epithelioma of the glans penis, necessitating amputation. The question arises, Is this a mere coincidence, or does it point to the possibility of cancer being transmitted by contagion?"

Correspondence.

LETTER FROM VIENNA.

The Sixth International Congress of Hygiene and Demography. —Professor Pettenkofer on the Teaching of Hygiene in Universities and Technical Schools.—The Work of the Sections. —Professor Virchow on the Connection of the Water-supply with the Origin and Spread of Infectious Diseases.

VIENNA, *October 23, 1887.*

PROFESSOR PETTENKOFER, of Munich, in an address to the general meeting, insisted on the necessity of instruction in hygiene being made compulsory in all the universities and technical schools. There were chiefly, he said, three classes of men that needed to give particular attention to hygiene: first of all, the physicians, then the architects and engineers, and finally public officials. Historical facts were cited going to show the importance of the study. In the Crimean War the proportion of French soldiers who died of wounds received at the hands of the enemy to those who died of disease was 100 to 375, but in the Franco-Prussian War, fifteen years later, the corresponding proportion in the German army was 100 to 43—a gain of 332 per cent. in immunity from death by disease. More than 70,000 German soldiers suffering with typhoid fever, and more than 30,000 with dysentery, were transported from the French frontier into Germany without any increase of the prevalence of those diseases among the civil population of the country. In the seventeenth century, when the population of London amounted only to about a million, the average mortality was 42 per mille, while now, with a population of more than four millions, the mortality was only 21 per mille. This was due to the fact that the English, who were characterized by a practical disposition in every respect, devoted a great part of their wealth to comfortable living, which was of hygienic importance and well worth imitating. "Cleanliness is next to godliness" was a well-known English proverb, and London's low rate of mortality was a proof of how the good Lord rewarded hygienic godliness. Many persons were averse to the expenditure necessary for hygienic improvements, but they were not aware of the fact that the damage caused by a high death rate and an increased prevalence of disease could be expressed in figures representing the loss of a vast amount of money. According to the speaker's calculations, the expense entailed by a single day's sickness amounted to at least 2 marks, and in a city of the size of Vienna, with a population of a million, it would amount to 42,000,000 marks annually. It might be inferred, therefore, what a saving would result from a reduction of the mortality or the morbidity of a large town even to the extent of only 1 per mille; in the case of Vienna it would amount to 1,400,000 marks annually. In Munich more than 25,000,000 marks were spent annually for beer; yet, when a few millions were asked for for purposes of drainage, water-supply, cleaning and paving the streets, etc., people sighed at the thought of such a burden. If the beer-drinking in Munich were reduced to a certain extent, even by only one fifth, a great sum of money would be saved, and no harm at all would be done; on the contrary, it would be very beneficial to the inhabitants, for, according to Bollinger's investigations, there were more deaths from diseases of the heart in Munich than in other towns in which less beer was consumed. If four glasses of beer were to be taken daily by those who now took five, the annual saving would amount to 5,000,000 marks—truly an *embarras de richesses.*

In regard to attempts to limit the spread of cholera by means of quarantine, the speaker remarked that many physicians and public functionaries still believed that the English were responsible for the introduction of the disease from India into Europe by way of the Suez Canal, owing to their aversion to restrictions on commerce. But this did not accord with the facts that cholera visited Europe no more frequently now than before the canal was opened, and that, although many European countries had suffered from the disease since the opening of the canal, Great Britain had herself remained free from it, whereas she had suffered severely in former times. The causes of England's present immunity must be sought for in something else than quarantines and other expensive hindrances to commerce, and the measures that had been adopted in England ought to be made use of in other countries of Europe. We had once been very sure that the cause of a high mortality was largely to be found in the tombs of the dead, in the church-yards. Now, however, that the water, the air, and the soil of church-yards had been examined more closely, as well as the relative mortality in districts adjoining them, our views had quite changed. The water of wells that had been sunk in church-yards was usually found to be clearer than that of the wells in the surrounding regions where the living dwelt; and Miquel, who had examined the air of the different church-yards of Paris, had always found it free not only from pathogenetic micro-organisms, but also from other schizomycetes.

Four sections were formed for the discussion of matters pertaining to hygiene, together with one for the consideration of demography. The chief interest was taken in the session of the third section, presided over by Professor Virchow, who made some remarks introductory to the discussion of the connection of the water-supply with the origin and spread of infectious diseases. He spoke of the importance of continued investigation of the subject, and said, among other things, that, although the practitioner suggested in all cases of infectious disease the presence of a living infecting germ, and took the necessary measures of precaution, it remained, nevertheless, for us to inquire into the nature of this germ. For his part, he could imagine the progress of our knowledge of bacteriology as taking much the same course that it had taken in pharmacology. Whereas we formerly knew such an alkaloid as quinine, for example, only by the effects of the bark of the plant in which it was contained, it was now produced on a large scale in manufactories. When we succeeded in the artificial production of bacteria, we should have attained the climax of investigation in this field.

Docent Dr. Ferdinandus Hueppe, of Wiesbaden, called attention to the report that he had presented on this subject, and remarked that, while statistics gave no conclusive evidence of a connection between the water-supply and the epidemic prevalence of infectious diseases—such as typhoid fever, for instance—our present experience and general considerations indicated that such a connection was possible, and in certain cases even probable; hence it was our duty to remove the danger of infection which threatened in this shape.

The second section, under the presidency of Professor Nothnagel, first discussed the question of the medical supervision of schools, with special reference to the prevention of the spread of infectious diseases and myopia. The first reporter, Dr. Wasserfuhr, of Berlin, read his report, and summarized his remarks in the following concluding sentences: The interests of states and families require the continual participation of competent physicians in the administration of schools. This participation should be for the purpose of removing the obnoxious influences which spring from the attendance of improper persons and from faulty methods of instruction. The means to be employed are partly individual certificates, and partly periodical inspections of the schools in the presence of their managers.

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PROFESSOR VIRCHOW AND SIR MORELL MACKENZIE.

It seems to be generally admitted that the German Crown Prince is now the subject of a malignant growth in the larynx, but the important fact has been brought out that the cancerous neoplasm occupies a different situation from that of the warty outgrowth on which Sir Morell Mackenzie operated. The new affection, interesting as it is as an almost unique example of cancer of the larynx occurring in conjunction with a benign papilloma of the same organ, has, therefore, no bearing whatever upon the question of the propriety of the course of treatment followed by the English surgeon. Of course, Professor Virchow is perfectly warranted in protesting that he should be held responsible for the diagnosis only in so far as it legitimately rested on his examination of the specimens actually submitted to him. This protest is the kernel of a statement that he recently felt called upon to make at a meeting of the Berlin Medical Society, of which he is the president. But on that occasion he added, according to the "British Medical Journal's" Berlin correspondent: "Now came the beginning of the period when English papers, under Dr. Mackenzie's influence, repeatedly told us that he made me entirely responsible for the judgment. In spite of my impatience, I kept silent, since I was not aware that I had given Dr. Mackenzie any pretext for extending my diagnosis beyond its legitimate sphere. I had never spoken to him, nor corresponded with him; neither had he, in the least degree, asked for my opinion." In regard to this point, the "British Medical Journal" says editorially: "As to the attempts which, according to Professor Virchow, have been made to thrust the entire responsibility for the present unhappy state of things on him, we can only say that no such insinuation has to our knowledge found expression in the English medical press." According to the same journal's Vienna correspondent, Professor Schnitzler, the well-known Vienna laryngologist, lately concluded a clinical lecture with remarks which the correspondent thus summarizes: "But, when the neoplasm was definitely proved to be malignant in character, what course must be adopted? Total extirpation of the larynx had so far not proved a very successful operation, and, even in cases where the disease was undoubtedly malignant, it should only be recommended with the greatest hesitation. Sir Morell Mackenzie had therefore, as it seemed to him, been fully justified in the course he had pursued throughout the case. After the growth had been declared by Virchow to be of a benign character, what physician would have been justified in recommending such an operation as extirpation of the larynx?"

That such a declaration had been made by Professor Virchow every reader of his article on "Pachydermia Laryngis" is fully aware. The fact that there had been no conference, personally or by correspondence, between him and Sir Morell Mackenzie seems to us of little consequence. There can be no doubt that Virchow perfectly understood why the specimens were submitted to him, or that he recognized that any report he might make on them, whether to Mackenzie or to the profession at large, could legitimately be used by the English surgeon as a guide in the prognosis and treatment of the case. Neither the value of histological examinations in the diagnosis of the nature of neoplasms nor Virchow's inferences from such examinations made by himself in this instance have been at all discredited. The subsequent occurrence of a malignant growth in a part of the larynx different from that in which the innocent growth operated upon was situated proves nothing—does not even raise a suspicion—against either the judiciousness of Sir Morell Mackenzie's course or the correctness of Professor Virchow's diagnosis; it simply shows that pachydermia laryngis confers no immunity from laryngeal cancer.

DISORDERS OF GASTRIC SECRETION.

It is a common delusion that an excess of gastric juice is often the cause of dyspeptic symptoms. A consideration of the physiology of digestion, and of the measures usually employed for the relief of disorders of that function, points rather to the conclusion that the secretion of gastric juice is far oftener too scanty than too profuse. That the latter condition may, however, occasionally occur has, during the past few years, been definitely established by several reliable observers. In the "Gazette médicale de Paris" may be found a *résumé* of papers by Reichmann and Riegel relating to this subject. Five years ago the former writer published an example of excessive secretion of gastric juice. Since that time other similar cases have been reported.

During the present year Reichmann has undertaken to give a systematic description of the affection, so that cases of this kind may be distinguished from other less clearly defined varieties of dyspepsia. In some of the cases which he has seen the disorder of secretion was periodical or intermittent; in others it was continuous. The former class included the cases of two hysterical girls, an hysterical young man, a tabetic with gastric crises, and two men who, in the intervals between the paroxysms, were in good health. It therefore appears that this disorder should sometimes be regarded as a symptom of an affection of the nervous centers, and sometimes as an idiopathic functional trouble of the stomach. The attacks usually come on in the morning before breakfast. The symptoms are vomiting, which is never wanting, which may come on before food has been taken or after eating, and which is repeated during the day; pyrosis and excessive thirst, which are always present; and a burning sensation in the stomach with headache, which are usual but not constant manifestations. The matter vomited presents the chemical and physiological characters of the gastric juice. The cessation of vomiting marks the end of the attack, which usually lasts twenty-four hours, but may persist for several days.

The cases in which the excessive secretion was continuous were sixteen in number, although in six of them the continuity of the secretion was not clearly established. Reichmann maintains that this form of the disorder depends upon an increased excitability of the stomach. When this exists, in some cases the secretion is excited by the presence in the empty stomach of bile, which has flowed back from the intestine in consequence of insufficient closure of the pylorus; in other cases by the too prolonged presence of the food in the stomach. The latter condition may depend upon two different causes. On account of a persistent acidity of the contents of the stomach, the amylolytic action of the saliva is prevented, and the unchanged starch accumulates in the stomach. At the same time the albuminoid elements of the food are digested in the stomach and accumulate there. This is shown by an examination of the contents of the stomach after their removal by a stomach-pump. Chemical analysis of the liquid thus obtained discloses the presence of hydrochloric acid and an abundance of peptones. If the liquid is allowed to stand for a time, it separates into two layers, one composed of starch, the other of peptones. At other times the too prolonged stay of the food in the stomach may depend either upon an exhaustion of the contractility of the muscular coat, or upon a reflex contraction of the pylorus maintained by the irritation of the mucous membrane by the acid contents of the stomach. In either case dilatation of the stomach follows sooner or later. Simple ulcer of the stomach is of frequent occurrence in persons affected with excessive secretion and undue acidity of the gastric juice. After the trouble has persisted for a long time it causes anæmia and marked emaciation. The diagnosis is easy when the characteristic symptoms—exaggeration of thirst and appetite, pyrosis, pain in the region of the stomach, regurgitation, and vomiting—are present. When these are absent an analysis of the contents of the stomach must be made in order to establish the diagnosis.

The treatment recommended by Reichmann consists in washing out the stomach with alkaline or chlor-alkaline solutions, and with solutions of nitrate of silver (from one to two per cent.); the drinking of alkaline and chlor-alkaline mineral waters; the administration internally of nitrate of silver (half a grain to a grain and a half dissolved in ten drops of water and inclosed in a capsule of gelatin); the use of nitrogenized food, milk, eggs, white meats, and porridges of oatmeal and milk; and a small allowance of liquids.

Riegel agrees with Reichmann in most particulars. He, however, believes that excessive secretion is not the cause, but a consequence, of dilatation of the stomach. Reichmann, on the other hand, has been able to convince himself of the existence of simple atony at the beginning of the affection. Riegel insists that the continuous secretion is frequently associated with cachectic conditions, such as anæmia, emaciation, or exhaustion. This circumstance might lead one to suspect the existence of cancer of the stomach. A careful examination of the patient and of the contents of his stomach would lead to the correction of this error. Riegel also maintains that gastrorrhagia frequently precedes the affection or occurs during its course, and is a proof that ulceration of the stomach also exists. He has previously pointed out the frequency of excessive acidity of the contents of the stomach in cases of simple ulcer. This fact suggests the interesting conclusion that between undue acidity of the stomach and continuous secretion of gastric juice there is only a difference of degree, and that both predispose to the occurrence of gastric ulcer.

OUR LADY OF SORROWS.

With so many vocations already open to her, and the fair prospect that others may be had for the asking in the future, lovely woman ought to wear a countenance as smiling as a May morning. And yet the faculty of leaving the family circle and doing the world's work away from the chimney-corner is too frequently accompanied by the fatal gift of gloom, and a tendency toward general dejection. Life is a serious business for many earnest, intelligent women, who seem freighted with a sad experience and overcome with the burden of existence. To change "Patience" to suit the occasion: "Oh, but they're doleful, doleful, doleful, doleful!" Each is in a sense Our Lady of Sorrows. George Eliot's heroines are all of this type—Dorothea, Dinah Morris, Maggie, and Romola, the grand and statuesque. There is not a ray of jollity in one of them. They miss the sunny side of everything.

Sometimes medical women fail in the same way. Some are sad of visage, melancholy in manner, and dejected in the matter of garments. All their lines are angles, of the kind that droop. To them "life is real, life is earnest," and the grave evidently its goal. This is an unfortunate state of affairs, especially for women belonging to a profession that is the "flower of our civilization," and one that requires cheerfulness and courage unlimited. In any other career a disregard of appearances and indifference to grace in speech and manner may perhaps be forgiven, but not in medicine. The physician is at once high priest, law-giver, guide, philosopher, and friend; and, when truly excellent, represents the highest type of man or woman. Any neglect of the fitness of things is a disgrace. Every man is a debtor to his profession, according to Bacon; and this is equally true of every woman. If the king's daughter is all glorious within, why should she look like a fright on the outside? The cultivation of boorishness is not an evidence of intellect, rather the reverse. Genius is full of hope and cheerful courage.

The feminine sex is lacking in the sense of humor to a great extent. Women are not so jolly as men. Like Constance Plantagenet, they are capable of fears, full of fears, subject to fears, and naturally born to fears. This tinges life with sadness. Another reason why women as a class fail to do as well as they might is that they understand so vaguely their proper place in nature. To speak in terms of rough generalization, men are beasts of burden whose fate and pleasure it is to struggle and conquer difficulties. Women are the artists of this world, who preside over grace and beauty and the pleasures of life. Each must win in his or her own way, according to the lines of nature, men as men and women as women. Real success is not possible otherwise.

Good advice to aspiring medical women might read thus: "Seek ye first to excel in all feminine grace and virtue; and then (provided your vocation is well chosen) medical excellence shall be added unto you." A woman who is large-hearted, intelligent, and refined, of good presence and manner, who is earnest, cheerful, and courageous, as well as pleasant to look upon, is the *chef-d'œuvre* of nature. Her influence for good is beyond calculation. She stands at the point of power, and has only to choose whether her audience shall consist of one or a hundred. How are we beholden to each bright, unquenchable, indomitable spirit of this kind! Women should consider it a duty to cultivate wit and humor, and to look persistently on the sunny, jolly side of life. It would lighten the world up wonderfully. Then will Our Lady of Sorrows gradually disappear, and become a shade of the past instead of the anachronism she now is. Between her and Notre Dame de Bon Secours there exists the same difference as between the sisters of legendary fame; when the first spoke, snakes and toads dropped from her mouth, while from the lips of the other fell pearls and diamonds. Farewell, dark lady of dejected draperies! You have outlived your usefulness, so pray go and be a shade. And as for other women, why, they will lend their minds to mirth and merriment, which bar a thousand harms and lighten life. At least, this is what one of them—who furnished the thoughts here expressed—has declared to us.

MINOR PARAGRAPHS.

PARTIAL AMPUTATIONS OF THE FOOT.

Mr. C. W. Cathcart lately called the attention of the Medico-chirurgical Society of Edinburgh to a comparison of the utility of the stump after Chopart's or Lisfranc's amputation with that of the stump left after Syme's amputation. According to the "British Medical Journal's" account, he had found that no satisfactory conclusions could be founded on the opinions of makers of artificial limbs, and he had therefore studied the subject from a physiological point of view, bearing the Webers' and Marey's researches especially in mind. He had concluded that the preservation of the tibio-tarsal joint, as in Chopart's operation, and that of the medio-tarsal, as in Lisfranc's, more than outweighed any disadvantages on the score of neatness; and that it was necessary to fall back on the dictum of the older surgeons, that in amputations for injuries as much tissue should be saved as was consistent with the vitality of the stump.

ŒDEMA NEONATORUM AND PHLEGMASIA DOLENS.

At a recent meeting of the French *Académie de médecine*, according to the "Union médicale," Professor Léon Dumas, of Montpellier, maintained that these affections were identical in their pathology. The treatment for phlegmasia dolens should, he said, be employed in cases of œdema of the new-born, and he insisted upon the use of warmth by means of Tarnier's *couveuse* and measures looking to the due establishment of respiration. The manipulations advised by authors should be absolutely avoided, for fear of dislodging a clot and giving rise to embolism.

PUERPERAL NEURITIS.

In the "Centralblatt für klinische Medicin," Dr. G. Sticker, of Cologne, summarizes an article on this subject, by P. J. Möbius, published in the "Münchener medicinische Wochenschrift." Having previously advanced the proposition that, in toxic paralyses, different poisons show an affinity for different parts of the nervous system, the author speaks of certain local paralyses following puerperal diseases, especially one involving both the sensory and the motor fibers of the median or the ulnar nerve, or both, occasionally bilateral, but more commonly affecting the right side alone. The disease begins during the lying-in period or shortly thereafter; it either develops suddenly or is preceded by premonitory symptoms, especially tearing pains, and it is of variable duration. Recovery almost always takes place sooner or later, but in the worst cases some marks of the affection remain. The preceding puerperal disease may be slight or severe. In one case the paralysis was observed in several of the scapular muscles, and in another case, of trifling severity, in the brachial plexus. The author thinks that post-puerperal paralyses limited to the lower limbs are always the direct results of inflammation of the pelvic cellular tissue, and that puerperal myelitis bears about the same relation to the affection here described that encephalopathia saturnina bears to ordinary lead paralysis.

A RARE FORM OF ENLARGEMENT OF THE TESTICLE.

At a recent meeting of the Paris *Société de chirurgie*, a report of which we find in the "Union médicale," M. Le Dentu spoke of cases of elephantiasis of the scrotum preceded by enlargement of the testicles, and of other cases of testicular affections of an allied nature without implication of the scrotum. In view of the frequency of malarial orchitis in hot countries—which he regarded as a lymphangeitis—it had occurred to him that these cases of enlargement of the testicles might be of malarial origin, the process being the result of repeated attacks of lymphangeitis. A practical point which he emphasized was the great efficiency of scarifications in the treatment, but he added the caution that they should not be numerous enough or often enough repeated to weaken the patient.

THE MEDICAL CORPS OF THE NAVY.

We are glad to observe that the attention of Congress is likely to be called before long to the necessity of increasing the attractiveness of the naval service for medical men. As matters are now, either the vacancies must go on increasing in number or the standard of requirements must be lowered to let in an inferior class of men. Whichever of these results ensues, the navy must suffer in consequence.

AGAIN THE CIGARETTE.

The latest yarn concerning "the deadly cigarette" that has come to our notice is that which attributes the death of a boy who jumped out of a window to shock "accelerated by excessive cigarette-smoking." This is almost as convincing a case as that of the cigarette-smoker who was assured by an aurist that his deafness was due to the use of cigarettes, but calmly retorted that he had been deaf for ten years before he ever smoked a cigarette.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 6, 1887:

DISEASES.	Week ending Nov. 29.		Week ending Dec. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.............	18	7	14	5
Scarlet fever..............	100	12	127	17
Cerebro-spinal meningitis....	4	3	1	1
Measles..................	46	8	33	2
Diphtheria.............	184	58	193	50
Small-pox................	0	1	1	0

An Honor to an American Physician.—The Sultan of Turkey has conferred on Dr. Morris H. Henry, of New York, the decoration of Commander of the Order of the Medigie. It is stated that it was conferred for distinguished services to medical and surgical science, especially for improvements in the methods of treating varicocele, phimosis, and kindred affections.

New Forms of Board of Health Certificates.—At a recent meeting of the city Board of Health it was resolved that, "on and after January 1, 1888, no certificates of births, deaths, or marriages will be accepted and filed in this office unless they are made out upon the new blanks, which have been prepared with special reference to binding, and have a margin reserved for that purpose." These blanks can be procured at No. 301 Mott Street, room 38, or will be sent to any address on application.

The Medical School of Paris.—The "Union médicale" states that the *École pratique* was lately damaged to the extent of about $20,000 by a fire which broke out in one of the laboratories.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 27 to December 3, 1887:*

So much of S. O. 235, A. G. O., October 8, 1887, as relieves CHARLES T. ALEXANDER, Lieutenant-Colonel and Surgeon, from duty at St. Louis, Missouri, and directs him to report for duty at Fort Meade, Dakota, is amended so as to take effect January 1, 1888. S. O. 274, A. G. O., November 25, 1887.

BIRMINGHAM, H. P., Captain and Assistant Surgeon. The leave of absence granted by orders No. 52, Fort Myer, Virginia, November 24th, is extended twenty-three days. S. O. 255, Division of the Atlantic, November 28, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending December 5, 1887:*

WYMAN, WALTER, Surgeon. Granted leave of absence for thirty days. November 29, 1887.

WILLIAMS, L. L., Assistant Surgeon. Granted leave of absence for twenty-one days. November 18, 1887.

KINYOUN, J. J., Assistant Surgeon. Leave of absence extended seven days. November 29, 1887.

WOODWARD, R. M., Assistant Surgeon. Granted leave of absence for seventeen days. December 5, 1887.

Society Meetings for the Coming Week:

MONDAY, *December 12th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *December 13th:* New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly—Elmira), Oswego (semi-annual—Oswego), Rensselaer, and Ulster (quarterly), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Morris, N. J., County Medical Society (semi-annual).

WEDNESDAY, *December 14th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany, Cayuga (semi-annual), Cortland (semi-annual), and Montgomery (quarterly), N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational); Strafford, N. H., District Medical Society (annual—Dover).

THURSDAY, *December 15th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Addison, Vt., County Medical Society (annual).

FRIDAY, *December 16th:* Chicago Gynæcological Society.

SATURDAY, *December 17th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

SALOL IN TYPHOID FEVER.

DAYTON, KY., *December 1, 1887.*

To the Editor of the New York Medical Journal:

SIR: In all the cases of typhoid fever I attended this fall, in addition to the usual treatment, I prescribed the new synthetical compound, salol (salicylate of phenol), from the very commencement, and continued it to convalescence, in doses of three grains every three hours, with the happiest results so far. It seems to have a powerful action upon the leucomaines formed during the progress of the disease, evidently destroying to a certain extent their toxic action on the nervous centers (if I am to judge by results). It is eliminated by the kidneys, and increases the flow of urine. I may also state that in none of my patients was the stomach disturbed by the small doses given.

JAMES BARNSFATHER.

THE LOCAL TREATMENT OF DIPHTHERIA.

LIVONIA, N. Y., *November 24, 1887.*

To the Editor of the New York Medical Journal:

SIR: The paper by Dr. Porter, on "The Importance of Local Treatment in Diphtheria," published in the Journal for November 19th, leads me to make a suggestion in the line of the thought expressed. The late Dr. Rochester suggested to me the employment of sulphate of quinine by insufflation in diphtheria, a powder of about two grains being blown into the throat every two hours. This I have found to disinfect the local poison, hasten the removal of the membrane, and sustain the strength of the patient. The only objection to the employment of the quinine is the disagreeable bitterness. In addition to the quinine, I would suggest the insufflation of pepsin every half-hour. I have recently treated a case of membranous croup with half-hourly insufflations of Jenssen's pepsin rubbed up with about one fourth part of sugar of milk. I also gave a tablet containing one twentieth of a grain of calomel once in two hours. In less than forty-eight hours all the membrane in the pharynx was gone, and the dyspnœa gradually lessened from that time until the patient was fully recovered. The treatment was pursued during five or six days, although a little hoarseness continued for some time longer. I mention this not only on account of the remarkable result, it being the only case of membranous croup in which I have ever seen the patient recover with any treatment, but also on account of the possible bearing on the treatment of diphtheria, and especially when there is a tendency to involvement of the larynx.

I would say that the diagnosis in the case of membranous croup was concurred in by Dr. Sheldon, then of this place, and Dr. Bennett, of Lima, N. Y.

Charles H. Richmond.

Proceedings of Societies.

NEW YORK CLINICAL SOCIETY.

Meeting of November 25, 1887.

The President, Dr. Robert Abbe, in the Chair.

Persistent Consolidation after Pneumonia.—Dr. G. M. Tuttle made a further communication regarding a case that he had reported at a former meeting. After complete solidification of the entire lung had lasted for four months, the tissue began to break down. There was no single abscess cavity, but general destruction and suppuration had taken place. The patient's general condition was now very low, but thus far the process was confined to the lung at first affected.

Laparo-elytrotomy was the subject of a paper read by Dr. W. D. McKim (see page 651).

Dr. L. Emmett Holt had been gratified to learn of the favorable operation of oxygen in the case reported by the author. He thought it was superior to all other stimulants in low conditions of the system, and he felt sure that he had, during the summer, saved several children's lives with it, using pure oxygen, and keeping the inhalations up for fifteen minutes in every hour.

Dr. R. J. Hall spoke of the great interest of the case, and of the many points it offered for discussion. He did not agree with the author that laparo-elytrotomy was the operation of the future. Some of the objections to it were that it had to be done after labor had begun, as dilatation of the os was essential, which added greatly to its inherent dangers, and that it was very difficult of performance. He objected to the manner in which the statistics given in the paper had been compiled, for he believed that the results obtained by operators known to be equally skillful were alone worthy of comparison, and that statistics from which bad results had been weeded out for any reason were unreliable. He would prefer the Porro-Müller operation or Sänger's, the statistics of which were encouraging.

Dr. Tuttle agreed with the last speaker as to the objections to laparo-elytrotomy, and advanced the additional one that it endangered the child's life, as it was an *accouchement forcé*. Personally he was in favor of Sänger's operation. It was simple and easily performed, and the mortality was only twelve per cent.

Dr. McKim replied that the Porro-Müller operation had been practically abandoned by the Germans, being now done only in exceptional cases, such as those in which there was gangrene of the uterus or a tumor.

The President called attention to the feature of parotid suppuration in Dr. McKim's case. The frequency of this occurrence after abdominal operations had recently been spoken of by Mr. Stephen Paget. If it was due to infection, it was singular that only the tissue of the parotid gland was attacked.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of November 9, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

Foreign Bodies in the Urethra and Bladder.—Dr. De Forest Willard read the following paper:

My object in bringing before you the subject of urethral and vesical foreign bodies is simply to emphasize the value of the evacuator (ordinarily used in rapid lithotrity to extract the calculous fragments) for removing other more or less solid substances that have found their way into the urinary tract, either by accident or by design. Foreign bodies enter by various routes. Projectiles may reach the viscus and remain in its cavity; bones may be driven in by crushing forces; fœtal remains may ulcerate through from extra-uterine cavities; intestinal contents may occasionally make their way into the bladder, but all these are either rare or are accompanied by such traumatism that death frequently ensues. The bodies that we will especially consider are those introduced through the meatus urinarius, urinary calculi being only incidentally considered. The strong tendency to manipulation of this part of the body that exists from early childhood to decrepit old age leads to many instances of misadventure. Think of a lad actually sliding a watch-chain down his urethra! Examples of inserted beads, pebbles, sticks, etc., are numerous in childhood. After puberty the tendency becomes more marked as the sexual desire increases. A few years later we find the morbid recluse, especially among the shepherds and monks of former centuries, resorting to intra-urethral stimulation with sticks or other hard substances to arouse the over-exhausted functions, waning from excessive masturbation or venery. As he yielded to his vile erotic feelings, the instrument often slipped from his fingers and was lost in the canal. Sexually insane must have been the shepherd who used his pocket-knife for this purpose, after manual friction and urethral stimulation had proved unsatisfactory, until little by little, through hundreds of these indecent acts, he had laid open the entire penis along its dorsal aspect until the pubes was reached, and the penis hung in two halves, united only by the lower wall of the urethra. Then with a short stick he was able to tickle the very orifices of the ejaculatory ducts. This stick, having slipped into his bladder, became incrusted, and it was not until the pain became torturing that he confessed the cause. Pipe-stems, pencils, thermometer-tubes, glass rods, straws, needles, wires, twigs, hair-pins, fruit-stones, and even forks and lockets, have all been found in the urethra, after introduction for stimulative purposes, or to relieve dysuria from stricture or other causes. In one instance[*] a man introduced the sewing needle of the girl whom "he desired to fall in love with him." At the present time we have fewer of these lecherous accidents, save in drunken debauchees, but the majority of instances occur from the use of old or improper catheters or bougies. Of course, these accidents are more frequently found in men than in women, as the former are more subject to urethral disease, and are also more erotic, but there are instances in both sexes. In children, small round bodies, such as beads, etc., are found in the anterior part of the canal, while the longer instruments at all ages slip back to the membranous portion of the tube, or into the bladder.

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[*] Poulet, "Foreign Bodies in Surgery."

Usually a long foreign body will find its way into the bladder in a few hours; rarely two or more days may be required. In exceptional rare cases, rounded bodies remain a long time in the urethra, the urine following a tortuous course around them, and, as they become incrusted, a pocket ultimately forms, or suppuration ensues. It is not strange that catheters and similar instruments are broken off in the canal when we learn of the recklessness of a man who used one gum catheter for twenty years, or of another who attached two portions of a silver tube simply with sealing-wax. Too short an instrument has often eluded the grasp of the surgeon and slipped bladderward. As to this recedence of instruments, which is strong and actual, there have been many theories. It does not seem strange to me that the compressor muscular fibers of the urethra, when stimulated to action by a body applied in front, should reverse their usual action as easily as the muscles of the pharynx, œsophagus, intestines, etc. This act of swallowing a hard substance is aided by the erection of the penis, which in its subsidence (should the anterior end of the object become engaged), drives it farther and farther back with each successive engorgement. Tending to this same unfortunate end are all the manipulations of the part in the patient's endeavor to extract the offending body. Unfortunately for the safe extraction of these bodies, the surgeon has to meet with a large amount of deception upon the part of the patient, when the object has been self-introduced, and it is often impossible to obtain any reliable information either as to the presence of the foreign mass or as to its conformation. In broken bougies the surgeon should, if possible, have the other remaining fragment in his hand for measurement, or else secure one of similar size. Any object of peculiar shape should be accurately described, or duplicated. It must be remembered that, while a patient may confess to the introduction of but one body, there may be several. The position in the canal must be thoroughly fixed. In the ante-scrotal region this is easily accomplished, and with the aid of a sound and a finger introduced into the rectum even the posterior urethra can be well examined, provided inflammation is not too severe. When possible, no manipulations should be attempted for extraction without the body being firmly secured from further recedence. Ether is of the greatest value, but cocaine injections may answer for urethral work.

Treatment.—About one tenth of inserted foreign bodies will be spontaneously expelled, but when the *vis a tergo* of the urine fails to wash out either a calculus or an object inserted through the meatus, the safest and surest plan is to attach to an ordinary litholapaxy evacuator (Bigelow's or other improved pattern) a large, straight tube, which is open at both ends. It contains a movable stylet for ease of introduction. The size should be the largest that the urethra will possibly admit (after nicking the meatus, if necessary), say French, No. 29 or 30; American, No. 19; English, No. 16, for adults; children in proportion. The possibility of the passage of the body through the tube should be determined, if possible, by actual trial, provided a similar piece can be obtained. Rarely will any bougie larger than the above-named size be found in the bladder or urethra. The method has been so satisfactory in my hands, as is proved by the collection of objects before you, that I always resort to it with confidence, to the exclusion of all other primary devices. If lodgment has occurred in the urethra, the canal must be firmly closed by finger pressure behind the object, while the metallic tube is slid down and carefully caused to engage the catheter or other mass within its caliber, when the bulb of the instrument is slowly compressed until the water has distended the urethra to its fullest limit, thus liberating the body, when suction is suddenly applied while the penis is stretched forward. Unless the mass is firmly caught and imbedded in a pocket, this manœuvre rarely fails after a few trials. The quantity of water that can be contained in the urethra is so small that the body may require two or three efforts to withdraw it the whole length of the instrument. The water should be injected very slowly, but the suction current must be made forcibly. Inspection of the rubber tube can be made through the upper opening without detachment of the catheter. Avoid employing forceps until unsuccessful with the above-described method, but, when necessary to be used, the superiority of the cannula again asserts itself. The forceps can be manipulated through its caliber, and, if the object is compressible enough to pass the bore, withdrawal can be accomplished without the slightest injury to the mucous membrane. Objects of larger size than this tube can seldom be withdrawn with safety by any method save cutting. Hair-pins can be compressed through the walls of the urethra, and their points passed into the caliber, when they can be completely pushed within the bore and easily withdrawn. Beads, peas, pebbles, etc., will easily enter the canuula by suction. Catheters, wires, etc., will usually require the assistance of forceps. Barbed heads of grain can also be ensheathed and withdrawn by this device.

If the object has passed into the bladder, the evacuator becomes an even more essential aid. A straight instrument is not always easy of introduction, but the security gained against subsequent urethral injury abundantly repays for the trouble. If a flexible or spirally cut obturator is used, the introduction is rendered much easier. The tube is used first as a sound to discover the offending body, when the bulb of the evacuator is first slowly compressed, so as not to disturb the fragment. Suction should always be made quickly, so as to draw the body with force. Failing, the water is next ejected with more energy, so as to move the fragment into better line with the caliber, suction being again rapidly applied. The hard substances will not be driven against the sides of the bladder with any more power than calculous fragments are, and, unless consisting of broken glass, will not be so angular. If the body is rounded, and of a size that can pass the bore, it will in a few moments be found in the bulb. If very long, like a catheter, or pencil, or wire, the chances are not so good that it can be brought into line with the caliber of the tube. As a bougie ordinarily breaks at or near the eye, however, its passage is more than probable. Failing, after ten minutes of gentle trial, a lithotrite should be introduced if the body is a bougie or pencil, and is capable of being cut or pinched in two, and the division made. A cutting lithotrite, like Caudemont's, is manufactured, but I presume is seldom found among the paraphernalia of surgeons, and the fenestrated instrument of Thompson is far safer. If the bougie is old and brittle, as is presumptively the case, such division with a lithotrite is easily accomplished. The segments can then be sucked out, and their total length carefully compared with the remaining portion or lost body. Every particle must be secured, lest it form the nucleus of a future calculus. Even the broken jaw of a lithotrite might be drawn into the bore. If the surgeon has not the straight tube with open end, which I advise, he may use the ordinary straight evacuating tube. Rounded bodies, and pieces of bougie small enough and flexible enough to enter the side opening, can often be secured with ease, but long or rigid pieces can only be drawn through the open-ended tube. This tube has the disadvantage that the point must be kept just inside the neck of the bladder. If pushed too far, the posterior bladder-wall flaps against it: if withdrawn too much, it is concealed in the prostatic portion, and makes no suction upon the vesical contents. Its safety from impaction of fragments in the eye, however, more than counterbalances this slight trouble; since, in the ordinary evacuating tube, a large fragment often can not be dislodged from the eye, and lacerates the urethra during withdrawal.

Should these manipulations fail (and if they have been carefully conducted no injury need have been done to the bladder), I show you now two forms of forceps which I have had made of just sufficient length to be slightly protruded from the end of the tube. In the one the jaws open by a spring, as in the old Halles's forceps, and in the other the jaws are worked by handles, as in the Mathieu and Gross and "alligator" patterns. Careful attempts can now be made to seize the body and extract it through the catheter. If it is small enough to be brought through, it is a great satisfaction to know that no possible injury can be done to either the neck of the bladder or the urethra, as is so likely to occur when a body is extracted in the jaws of a lithotrite. Necessarily only a small proportion of introduced objects can be removed *per urethram*, and I should lay it down as a rule that any foreign body too large to pass the caliber of this No. 29 tube, unless it was very soft and pliable, should be removed by lithotomy, either perineal or suprapubic. Lithotomy has its dangers, but laceration is worse. The suprapubic is at present the fashionable operation, and it certainly presents many inducements in its favor. The median perineal operation, however, is a safe one, and gives excellent results. No important structures are severed, and there is seldom troublesome hæmorrhage if the rhaphe is closely followed. By either of the routes great care must be exercised in the search, if the object is sharp-pointed, lest a perforation be made. The inflation of the rectum in order to lift the bladder must be dispensed with if the object is sharp pointed. The upper route gives more room, and, while there is a slight risk of wounding the peritonæum, yet we must remember also, in the extraction of large objects, as well as calculi, by the perineal route, that the recto-vesical fold of the peritonæum is in close proximity to the neck of the bladder, and may not escape involvement in the subsequent inflammatory action. If the walls of the bladder were only of sufficient strength to warrant their immediate sewing with catgut or silk, and permit primary union under strictly antiseptic dressings, while the urine was drained off below, the suprapubic route would certainly be decidedly the better one; but, as this is not the case, there is still room for honest differences of opinion in the selection of an operation. For the present we must be content to drain the suprapubic wound.

In the absence of an evacuator, the expulsive force of the urine is often sufficient to dislodge a urethral impaction, especially if the meatus is closed for a moment, so as to obtain the full dilating power of the water. Failing in this effort, if the foreign body can be located and the urethra closed, a large injection of sweet-oil may be thrown in, after a hot bath, and the largest possible bougie carried down to the body to stretch the membrane, while pressure from behind is made either by the surgeon's finger or by the expulsive efforts of the patient's bladder. Should lodgment be made in the fossa navicularis, the spoon of the ordinary pocket-case can often be hooked behind the object and assist in coaxing it forward. A hair-pin, a wire doubled upon itself and slightly bent, or a blunt curette, makes also a valuable extractor. An excellent instrument also is the articulated scoop of Leroy d'Étiolles, which, being introduced past the foreign body, has a mechanism by which its tip is then bent at right angles to the shaft, and is capable of making strong but dangerous traction. The abruptly short-beaked sound which I always use for sounding the *bas fond* of the bladder can sometimes also be "wormed" past the obstruction, and effect its dislodgment. I show you here seven prostatic stones that I have thus extracted, aided by the force of the urine. A long urethral forceps is of great service, as it serves partially to protect the canal during extraction, but it does so far less effectually than the straight tube before described, which should be placed in every evacuating set. Hunter's or Civiale's three-bladed forceps is occasionally used, but I always look with abhorrence upon dragging any object forcibly through the canal. A dangerous instrument is the urethral lithotrite of Reliquet, as incision is infinitely safer for all rough and large bodies.

When the substance lies posterior to the triangular ligament, gentle attempts should be made to push it into the bladder, only after the evacuator has failed to dislodge it. If it is necessary to operate, the rhaphe should be closely followed, while a large staff is held in position to indicate the location of the obstruction and of the tube. An incision in front of the scrotum is easily made, and should be closed after the removal of the body by catgut or quilled sutures. Treated antiseptically, and with either a retained catheter or frequent catheterizations, immediate union may be confidently expected. The quilled suture gives more perfect rest by its splint action. If a stricture exists, and the foreign body is lodged behind it, dilatation or free external incision of the stricture should be practiced.

In former days the instruments for search and removal of these objects greatly exceeded those of the present day, when operative procedures are more common. The "duplicators" of Mercier and of Charrière were intended to fold up any soft substance, such as a very flexible bougie. Long stiff bodies were seized by "redressors" or "*basculeurs*," forceps with beveled blades, constructed so as to rotate the body so that its long axis would correspond with that of the instrument. Occasionally a small lithotrite will answer for either of these purposes, but the great danger of laceration during withdrawal through an unprotected canal must never be lost sight of. The curved forceps of Cusco or Voillemier is, perhaps, as useful in the bladder as in the membranous urethra; but I am afraid to use it for the reasons already named, especially since I have found suction so much safer and also more effectual. For the removal of pins, bonnet-pins, or needles from the urethra, the point can sometimes be imbedded in a wax or gum bougie, but it is easier washed out with the evacuator. If immovable, the point can be pushed through the walls of the urethra, and, by sharply bending the penis, the head after reversal drawn through the tube by suction or by forceps. It is seldom necessary to cut the pin when this method is used. If a piece of nitrate of silver is lost from a *porte-caustique*, the evacuator, charged with salt water, should be used at once if the force of urination does not expel the mass.

Many ingenious devices have been practiced, in the absence of instruments, to rid the urethra of impacted bodies, but the knife is far safer than rough instrumentation. In the absence of the straight evacuating tube, an extra-sized catheter, with open end, and a large syringe might prove useful. Blood-clots in the bladder are practically foreign bodies, and are best removed by gentle suction through the curved evacuator, or through the blood catheter, which I here show, the large eye of which is closed down during introduction by a spirally cut obturator. Catheter accidents are so frequent that instruments should be often examined. Only recently I found that the distal extremity of my much-used pocket-case instrument could be slipped from its screw-thread by a very small amount of traction. Old gum bougies should be thrown away as soon as they begin to lose their elasticity.

To summarize: 1. The litholapaxy evacuating tube, large, straight, and with open end, is the surest and safest instrument for the removal of foreign bodies from either urethra or bladder. 2. The fenestrated lithotrite should be employed to break up all bodies capable of division. 3. Incision of the urethra or bladder is safer than a tear of the neck of the viscus or of the canal. 4. The suprapubic and median perineal are the safest routes of entrance to the bladder when suction fails. 5. Forceps should be used with the greatest care, and always through a straight tube, which insures protection both to the urethra and neck of the bladder during both exploration and extraction.

Lavage in the Treatment of Gastric Affections.—Dr. Solomon Solis-Cohen read the following paper:

Any agent or any method which promises to enlarge our therapeutic resources against those obstinate conditions of "gastric catarrh," "functional dyspepsia," etc., which are a source of distress to the patient, of annoyance to the physician, and of profit to the pepsin and patent-medicine manufacturers, deserves at least a respectful consideration. The method which I desire briefly to present to the society this evening—lavage, or irrigation of the stomach—has been employed for many years in Europe, so that it can no longer be considered to be merely on trial. In America, however, it has not won general introduction, nor am I aware that any discussion of it has been had before this body. This, then, is my excuse for calling attention to a subject in connection with which I have nothing new to communicate.

It needed not the discovery of omnipresent bacilli, those evil spirits named "legion" of our modern superstition, floating about, "seeking whom they might devour," to enforce the value of cleanliness. The surgeon long ago discovered that clean surfaces would unite more promptly, that a wound kept free from foreign substances and irritating secretions would undergo a more rapid and more satisfactory course toward repair, than if the conditions were otherwise. In the treatment of the more readily accessible mucous surfaces, whether of the eye, the nose, the throat, the vagina, or the urethra, the importance of keeping the parts free from morbid secretions, from the products of desquamation, and from other sources of irritation is not a matter for debate. The extension of the same principle to the treatment of affections of the gastric mucous membrane is but a question of mechanical detail, not of therapeutic justification.

Kussmaul, in 1867, employed a doubly acting stomach-pump to irrigate the stomach with alkaline solutions (Carlsbad water), and it is to this observer that we are principally indebted for a study of the method, mechanically and therapeutically. It is said, however, by Dujardin-Beaumetz that a French physician, Blatin, had proposed the practice in 1832. It is to another French observer, Fauché, of Paris, who communicated his procedure to the Academy of Medicine in 1879, that we chiefly owe the simplification of the technique by the use of siphonage, a process employed independently by Oser, of Vienna, at about the same time. Others have variously modified the details of instrumentation and practice. Among those who have contributed most to the popularization of the method is Dujardin-Beaumetz, who applied to it the name *lavage*, by which it is now described.

The manner of performing lavage recommended by the latter observer is that which I have followed in the few cases in which I could induce private patients to submit to it. The results obtained in these cases have been sufficiently encouraging to induce me to continue at least to propose it wherever it seems applicable. The apparatus and its employment are sufficiently simple. An œsophageal tube with a blunt, double-eyed extremity, of flexible rubber, about twenty-eight inches long, and from a quarter of an inch to a little less than half an inch in diameter—practically an enlarged catheter, and made of similar material (the one exhibited having been made by Tiemann & Co., of New York)—is attached by a small section of glass tubing to a soft-rubber tube about a yard in length, into the free extremity of which a glass or rubber funnel, of from six ounces to eight ounces capacity, is inserted. Sometimes the free extremity of the œsophageal tube is slightly stiffened. The patient sits, or stands, facing the physician. The œsophageal tube, having been dipped into warm water or warm milk, is placed within the entrance of the œsophagus, and is then propelled by successive pushes into the stomach, the process being facilitated by efforts at deglutition on the part of the patient. Many patients quickly learn to introduce and swallow the tube without assistance. A mark on the tube shows when a sufficient length has been introduced (say eighteen or nineteen inches). The funnel is then elevated to the level of the patient's forehead, and from a pint to a quart or more of the lavage solution is slowly poured in, the glass junction-tube permitting its passage to be watched, and obstruction or attempted regurgitation to be detected. The patient's sensations will usually inform us when a sufficient quantity of the solution has entered the stomach. As the last portion of liquid disappears from the funnel, the soft-rubber tube is pinched near the extremity, the funnel is rapidly inverted over a receptacle placed upon the floor, and the contents of the stomach are thus removed by siphonage. These manœuvres are repeated until the returned fluid is clear.

The first introduction of the tube, and possibly the second and third, will occasion more or less dyspnœa, often nausea and retching, rarely vomiting. These effects, though partly physical, are largely psychical, and will disappear with tolerance. The dyspnœa may be immediately checked by insisting on full inspirations. Nausea is overcome as soon as the water enters the stomach, floating the tube away from immediate contact with the mucous membrane. In highly neurotic subjects it may be well to prepare for the operation, at first, by administering full doses of bromides. I have tried anointing the end of the tube with a solution of cocaine in glycerin, but can not allege any striking benefit from the procedure. Firm but skillful handling of the tube is the best sedative. Sometimes during the withdrawal of the solution solid particles of food (grains of corn in one of my cases) may become impacted in the eyes of the tube, and the flow of liquid will cease. A little more of the solution must then be introduced, both to wash away the obstruction and to re-establish the siphon current. If the tube should be pushed too far into the cavity of the stomach, it may curve upon itself and the siphon will not work. Withdrawal of the tube for a few inches will remedy this; if the flow is not readily established, it is said that it may be favored by manipulation of the stomach, and efforts at coughing may be made by the patient. I have not had occasion to resort to these devices.

When *lavation* alone (washing) is the object of the procedure, a weak alkaline solution is employed; a drachm or two of sodium sulphate, sodium chloride, sodium borate, or sodium bicarbonate, in a quart of warm water, at about 100° F. Should it be considered necessary, however, various sedative or antiseptic medicaments may be added to the lavage solution. Those most highly recommended are resorcin (1 per cent.), boric acid (1 per cent.), creasote (1 per cent.), carbon-disulphide water (one part of a solution containing fifteen grains to the quart to two parts of water), charcoal powder (two to four tablespoonfuls), chloroform water (saturated), bismuth subnitrate (two tablespoonfuls to the pint). In the use of agents like resorcin, carbolic acid, etc., the liability to absorption if the solution is not all removed must not be forgotten. In using what he terms "milk of bismuth," Dujardin-Beaumetz advises that the solution be allowed to remain a few minutes in the stomach, so as to allow the bismuth to be deposited, after which the supernatant liquid may be withdrawn.

Lavage should be performed when the stomach is empty; therefore some authors recommend the hour of rising in the morning. I have found noon—say four or five hours after a light breakfast—or the same interval after lunch or dinner, to be more convenient for myself, and to answer as well in most instances. One lavation daily is usually enough. After a while the intervals may gradually be lengthened, until the process is discontinued.

The therapy is sufficiently obvious. The effects are said to be most marked in cases of dilatation of the stomach, in which delayed digestion and retention and putrid fermentation of the contents of the stomach give rise to distressing symptoms. In all cases where the gastric mucous membrane is in a catarrhal condition, coated with the glairy mucus which is seen amid vomited matters or bathed in the sour liquid ejected as "water-brash"; where the production of gastric juice is impeded, or the secretion altered in quality by an abnormal condition of the membrane, extending perhaps into the tubules, or by the presence of irritative matters; where fermentation of ingested and retained matters takes place; in short, in the typical case of chronic gastric catarrh or acid dyspepsia, lavage will be found highly useful. It removes any undigested matters remaining in the viscus, cleanses it from products of desquamation and morbid secretion, and gently stimulates the glands and absorbents to healthy action. In gastralgia dependent upon the presence of irritating matters, and sometimes in cases apparently idiopathic, lavage with the employment of chloroform or bismuth as a sedative is said to be productive of cure. I have had no opportunity to test the statement personally. In the chronic gastritis of drunkards the measure is said to be an excellent palliative, nor is hæmatemesis considered a counter-indication, unless actual ulceration exists. In cancer of the stomach it is useful as a palliative measure, and my first practical acquaintance with this method of treatment was made during my student days in two cases of gastric carcinoma treated after the method of Kussmaul, with a doubly acting stomach-pump, at the hospital of the Jefferson Medical College, in the clinic of Professor DaCosta.

Within the last few years two new applications of the lavage method have been found. In 1885, at Kussmaul's clinic, and subsequently by Senator, Rosenthal, and other observers, it has been successfully employed in the treatment of ileus. Kussmaul explains this result by the theory of relief to the tension above the point of constriction, caused by gases and accumulated fæces, with concomitant restoration of normal peristaltic action. Since 1884 Leube and other observers have made chemical and microscopical examinations of the gastric secretions and other matters removed from the stomach at various periods of digestion, and profess to have thus obtained valuable diagnostic indications. This subject, however, is beyond the scope of the present communication. While the practice is usually confined to chronic cases, I have had occasion to resort to it in one case of acute indigestion with obstinate vomiting, in a phthisical, slightly hysterical female, with a gratifying result—in that the vomiting, rebellious to diet and medication, yielded to two applications of the stomach-tube. In this case, before withdrawing the tube, warm milk was introduced into the stomach, a measure advocated by French writers. Indeed, there can be little doubt that, in connection with *gavage*, or forced feeding, irrigation of the stomach assists in maintaining nutrition in phthisis and other wasting diseases.

Dr. J. **Tyson** had had some experience with lavage, although he had not employed it within the last ten years. In one case of dilatation of the stomach it was used with a great deal of comfort to the patient. He learned to introduce the tube, and would wash out his stomach and enjoy a good meal afterward. He subsequently passed from under Dr. Tyson's observation, and died, probably of the disease which had caused the dilatation—cancer of the pylorus. In a second case the result was not so satisfactory, and the procedure caused great discomfort.

Dr. W. **Osler** said that irrigation was a measure in which he had been interested for several years. In the first place, there was serious objection made to the procedure by at least half the patients, on account of the discomfort experienced in the introduction of the tube. The soft tube was sometimes very difficult to pass, and sometimes it was necessary to resort to the stiffer tube. Where the patient himself performed the operation, it was, of course, better that he should have the soft tube. The speaker was of the opinion that this measure had a much narrower field than the statements of the French and German writers would lead one to infer. He would not hesitate to predict that within a few years, when the fashion had subsided, it would be confined entirely to cases of obstinate gastric catarrh, in which it was of inestimable service, and to cases of dilatation of the stomach, in which it was not only of service but absolutely indispensable. We had no satisfactory treatment for dilatation of the stomach other than by irrigation.

Dr. E. **Martin** said that during his term of service at the University Hospital this method of treatment was introduced by Dr. William Pepper, but it was found, as Dr. Osler had stated, that the patients would not remain. The measure was tried in six or seven cases, and all but one patient left. The patient who remained experienced marked benefit; he gained in weight, and when he left the hospital, six months later, was able to pass the tube himself. A difficulty which the speaker had recently experienced in one case was that the patient would vomit the tube. This he had overcome by using a stiffer tube.

Dr. J. P. C. **Griffith** said, speaking chiefly of the procedure for diagnostic purposes, that we in America were unable to study the matter to any great extent, owing to the rebelliousness of patients to this method of examination. German patients appeared to be more tractable, and Riegel had reported that during the year 1885 he made over 1,300 examinations of the gastric juice in 122 cases; and in 1886 tested 134 cases in a similar way. Every patient presenting evidences of disease of the stomach was submitted to lavage, and the gastric contents thus obtained were subjected to a chemical examination. Riegel's method was to administer to the patient an ordinary mixed meal, and, after about six hours—the stomach should be emptied at the end of seven hours—to remove the gastric contents, if possible, undiluted by the employment of water, and to filter them. He then tested the filtrate in order to determine especially the presence or absence of hydrochloric acid and the peptic strength. The tests were at once simple and very delicate. He employed a variety of these, but the ones which had proved most satisfactory in the speaker's hands, and with which he felt most familiar, were the reactions with methyl-violet and Congo-red for hydrochloric acid, and Uffelmann's carbolated iron test for lactic acid. In the presence of a small amount of free hydrochloric acid a dilute solution of methyl-violet would turn to a blue color, and Congo-red would also be changed by the acid to a blue. The results of Riegel's experiments were very interesting, and had been fully confirmed by Korczinski and Jaworski, and by Sansoni. It had been found that in carcinoma of the stomach hydrochloric acid was almost invariably absent, and that the peptic strength of the gastric juice was wanting; so that the attempt to digest albumin artificially with the filtrate failed. In dilatation of the stomach there was always a large amount of lactic and butyric acids, though hydrochloric acid and pepsin were also present. In dilatation, therefore, the trouble was not due to lack of digestive power, but to stenosis or to want of muscular power. Gastric ulcer was almost always preceded and accompanied by a supersecretion of hydrochloric acid. In cases of ordinary dyspepsia there was not a diminution of the gastric juice, but usually a supersecretion. Riegel maintained, therefore, that it was bad therapy to put every case of dyspepsia on a routine treatment of hydrochloric acid and pepsin; and that the chemical examination of the gastric contents was a *sine qua non.* A case recently in the University Hospital illustrated the value of this aid to diagnosis. A man was admitted in an extremely anæmic and emaciated condition, and with subjective and objective symptoms of gastrectasis. The signs of this disappeared, however, when the diet was carefully regulated; but, in spite of the apparent digestion and absorption of food, he became more anæmic and weaker. The diagnosis of carcinoma of the stomach was entertained, and it was thought that some induration could be detected in the pyloric region; but the contents of the stomach were removed with the tube, and the filtrate found to contain an abundant supply of free hydrochloric acid, and to digest albumin perfectly. On this ground carcinoma of the stomach was excluded. The man subsequently died, and cancer was found to be absent; the source of the induration being a thickened and somewhat stenosed pylorus, due to a duodenal ulcer. There was at the present time another patient in the hospital, in whom gastric ulcer had been suspected, but the examination of the contents of his stomach had shown that digestion was retarded, and that there was no reaction for hydrochloric acid with the methyl-violet test. Assuming that the German observers were correct, the presence of ulcer is excluded in this case.

The PRESIDENT could personally speak of the value of lavage in the treatment of dilatation of the stomach and in carcinoma. For the past twelve years, at least, he had been in the habit of using this measure, from time to time, during his terms of service at the German Hospital. Following the example of Kussmaul, he had usually used a solution of the Carlsbad salt, of the strength of the natural water. In cases of dyspepsia, he had more recently preferred to use copious draughts of hot water to wash the contents of the stomach into the bowel. In the introduction of the tube into the stomach a great deal depended upon the skill and experience of the manipulator. There had been for several years a male nurse at the hospital who could introduce the tube much more readily and with less repugnance on the part of the patient than the speaker or any of the residents could. One patient with carcinoma of the stomach used this treatment continuously during a period which covered at least two of the speaker's annual terms of service, and his example was a great encouragement to others to submit to the treatment. The tube could probably be swallowed with greater ease, if its lower end were weighted with a ring of lead.

Dr. SOLIS-COHEN said that his object in presenting the paper had been to elicit discussion, rather than to present something new. His experience, as implied in the paper, had been that of Dr. Osler, that it was difficult to get patients to submit to this measure. If, however, the first three or four times could be bridged over, the relief afforded was so great that the patient would allow it to be continued as long as necessary. Although he had passed the tube in some dozens of cases, the number of patients that he had systematically treated in this way had not been great—only eight in a period of two years. Still, the results obtained in these cases of obstinate gastric catarrh, after the failure of all medication and regulation of diet, had been so satisfactory in the relief of symptoms, and almost in the re-establishment of the normal condition, that he was encouraged to continue the use of the procedure. It would seem that in cases of vomiting due to the presence of sarcinæ, washing out of the stomach, with the subsequent introduction of a sufficient quantity of some safe antiseptic solution, would be one of the best plans of treatment. The tube had also been used in cases of poisoning, where the stomach-pump was not at hand.

Reports on the Progress of Medicine.

NEUROLOGY.

BY J. LEONARD CORNING, M.D.

Experimental Dietetics in Lunacy Practice.—Clark ("Edinburgh Med. Jour.") observes that the result on gastric secretion of using the oral or nasal tubes for forced alimentation is to evade the operation of a physiological process which is aptly described by Lauder Brunton as follows: "The effects of mastication are not limited to the changes produced by it in the food within the buccal cavity; the taste of savory meat, the rolling of a sweet morsel under the tongue, and the movements of mastication exert an influence upon the stomach and upon the brain. In a case of gastric fistula, where the œsophagus was occluded, Richet noticed that the mastication of food induced secretion of gastric juice, although nothing could pass from the mouth into the stomach on account of the obstruction of the gullet." The same phenomenon is known to occur when food enters the stomach, for the bile and pancreatic secretions are called forth in anticipation of the exercise of their respective functions. There can be no question, therefore, that the loss of natural stimuli constitutes a serious objection to artificial feeding, and the depressed condition of the reflex functions may operate in the same way. Clark adduces three cases in illustration of this which came under his observation two years since. These patients had their food injected four times each day for seven weeks, and yet they steadily lost weight, although they offered little or no resistance to the artificial mode of alimentation. Various dietetic, therapeutic, stimulant, and digestive combinations were tried, the cases being of the most asthenic, unpromising kind. The secretions were altered or arrested, the mucous lining of the throat relaxed and irresponsive, or red, irritable, glutinous. Trial was made of egg custard with milk, brandy or whisky, beef-tea thickened with potato, Benger's liquor pepticus and liquor pancreaticus, Carnrick's cod-liver-oil emulsion, calomel, acid, and nux vomica, bismuth, and washing out the stomach with Condy or carbolic acid. Finally the pump and tube were discarded, and the attendants were instructed to use their utmost endeavors to encourage self-feeding with appetizing and dainty morsels frequently repeated. The total amount of food consumed became thus a mere fraction of that daily injected for seven weeks; but, on the other hand, the improvement in nutrition was gratifying in the extreme after the lapse of a few weeks. Clark explains this by the aid of the statement of Lauder Brunton and the observations of Richet above cited.

The Perception of Space.—James ("Mind") summarizes the factors involved in space-perception as follows: The sensations contributing to space-perception seem exclusively to be the surface of the skin, retina, and joints. "Muscular" feelings play no appreciable part in our feelings of form, length, direction, etc. Movements assist discrimination by reason of the peculiarly exciting quality of the sensations which stimuli moving over surfaces arouse. The education of space-perception consists largely of two processes—reducing the various sense-feelings to a common *measure*, and *adding them together* into the single all-including space of the real world. Both the measuring and the adding are performed by the aid of things. The imagined aggregate of position occupied by all the actual or possible, moving or stationary, things which we know, is our notion of "real" space—a very incomplete and vague notion in most minds. The *measuring* of our space-feelings against each other mainly comes about through the successive arousal of different ones by the same *thing*, by our selection of certain ones as feelings of its real size and shape, and by the degradation of others to the status of being merely *signs* of these. For the successive application of the same thing to different space-giving surfaces motion is indispensable, and hence plays a great part in our space-education, especially in that of the eye. Abstractively considered, the motion of the object over the sensitive surface would educate us quite as well as that of the surface over the object. But the self-mobility of the organ carrying the surface immensely *accelerates* the result.

Recent Experiments on the Cerebral Circulation.—Gärtner and Wagner ("Wiener med. Wochenschrift") have obtained interesting results by applying to the problems of the cerebral circulation a method the essential feature of which consists in measuring the amount of blood which flows through the organ in a given period of time—in other words, which passes away by the venous system. The experiments were performed on dogs, the blood-flow being registered on a kymograph by the aid of a cannula placed in one of the external jugular veins, which in dogs convey the greater part of the cerebral blood. It is impossible to enlarge here further upon the technique adopted, but a note or two of the results obtained may prove of interest. Thus, in strychnine poisoning the increase of the stream-velocity was striking. On the other hand, contrary to current physiological opinion, irritation of the peripheral nerves failed to cause narrowing of the cerebral blood-vessels. Again, on testing with narcotics, it was found that at the commencement of chloroform inhalation the cerebral circulation was considerably accelerated, and at the same time the arterial blood-pressure rose. In about a minute, or even less, however, the blood-pressure began to decline, but, nevertheless, the outflow quantity remained increased. This phenomenon can clearly be due to nothing else than an expansion of the blood-vessels. When the chloroform inhalation is continued for some time, the blood-pressure may become so slight that little or no blood flows through the expanded blood-vessels. After the administration of morphine no similar phenomena were observed. The results obtained by direct electrical stimulation of the cortex were interesting. According to Kussmaul and Tenner's investigations, this procedure should result in the production of anæmia. Gärtner and Wagner, on the contrary, ascertained that a considerable acceleration was produced. Observations with amyl nitrite showed that this drug produced expansion of the cerebral blood-vessels.

The Use of Galvanism in the Treatment of Insanity.—Wiglesworth (the "Journal of Mental Science") has employed galvanism to a considerable extent in certain phases of insanity. Flexible plate electrodes were employed, the cathode being placed on the forehead, and the anode on the nape of the neck. From his own observations he concludes that, while the use of galvanism to the head is a procedure which is certainly not going to revolutionize the treatment of insanity, this agent is nevertheless one that is capable of doing much good in certain selected cases, and that by its judicious employment we may every now and then cure cases which would otherwise drift into hopeless chronicity. The class of cases which offers the best field for the employment of this agent is that which includes examples of mental stupor and torpor—cases which are grouped under the specific designations of *melancholia attonita* and so-called acute dementia.

The Therapeutic Value of Currents of Great Intensity ("Franklinization").—Eulenburg ("Neurologisches Centralblatt") has employed the static current in seventy-four selected cases, including different neuroses. Six of these were permanently cured, thirty-three much improved, while in thirty-five cases other varieties of treatment were called into requisition. The most favorable effects were observed in neurasthenic conditions, complicated with cerebral symptoms (insomnia), as well as in various forms of headache. Neuralgias of the trigeminus and occipital nerves were also benefited. In sciatica and intercostal neuralgia the application of the static current was found not only of a certain amount of benefit, but specially convenient for the operator, as the removal of the patient's clothes is unnecessary. Eulenburg is inclined to doubt the statements regarding the effectiveness of the static current in hysterical and hystero-epileptic cases, feeling confident that the favorable phenomena observed are largely due to psychical causes. Finally, Eulenburg expresses the opinion that static electricity as a factor in neurotherapeutics is destined to maintain itself. To be sure, its field is somewhat narrow, but, when employed by those experienced in its manipulation, results may be obtained with reasonable precision.

Hereditary Tremor.—Dana ("American Journal of the Med. Sciences") contributes a paper on this well-known affection. The author is mistaken, however, in supposing that the disorder has heretofore never been systematically described, for McLane Hamilton ("Nervous Diseases, their Description and Treatment," p. 502) thus described it several years since: "A functional tremor of a very light grade, which is simply a personal peculiarity, is met with sometimes, and should not be magnified to the dignity of a disease. This may affect several members of the same family, as is the case in one example of which I know. The head of the family is a vestryman of a church, and in passing the plate he sometimes is obliged to exercise the utmost self-control to prevent the contents from being thrown out, and more than once this infirmity has given rise to insinuations concerning his habits. His two children, both very young and healthy people, are affected by the same tremor. In such a case the trouble does not increase with time, and there are none of the other progressive signs of the true affection." For all practical clinical purposes this is an excellent description. The neurotic family histories of individuals affected by hereditary tremor contained in Dana's article are interesting.

A Case of Coniine Poisoning.—Schulz ("Deutsche med. Wochenschrift") gives an interesting account of a case of coniine poisoning occurring in a medical student as the result of smelling of a preparation of coniine which was being passed about in the class-room during a lecture on materia medica. Headache, great muscular weakness, difficulty in fixing the attention, soporific tendency of increasing intensity, sensations of unusual warmth, and, finally, profuse diaphoresis and delirium took place. Recovery followed in a few days.

Alopecia Neurotica.—Schütz ("Monatsh. für prakt. Dermatol.") describes the case of a boy, eight years old, who, having been wounded by the scissors while having his hair cut, experienced thereafter a progressive loss of hair. The wound which was assumed to have given rise to the phenomenon was located on the left side of the occiput in the neighborhood of the articulation. The denuded portion of the scalp had the appearance of a triangle, the apex of which was situated directly above the cicatrix. There was neither atrophy of the skin nor any appreciable modification of cutaneous sensibility. In order to find a rational explanation for the loss of hair, the author assumes that the injury involved the division of trophic nerve-stems, and that the expansion of the denuded portion of the scalp is to be ascribed to the corresponding ramifications of the divided nerve-stems. As to the preservation of cutaneous sensibility throughout the denuded region, the author calls to mind the experiments of Joseph ("Centralblatt für Phys."), which showed entire absence of abnormal sensibility at the points where the hair had fallen out.

Monoplegia Anæsthetica.—Adamkiewicz ("Wiener med. Blätter") describes under this designation the case of a girl of nineteen years who, in the absence of all evidence of cerebral or spinal-cord complications, suffered from total anæsthesia of the right arm. Vaso-motor and trophic disturbances in the form of abnormal perspiration, a livid appearance of the skin, and a tendency to the formation of sores on slight provocation, were also present. When the patient's eyes were closed she was quite unable to make any use whatever of the arm; but while her eyes were open, motility remained unimpaired. According to the author, there were absolutely no evidences of hysteria, and he therefore arrives at the conclusion that the case was one of an affection of the plexus cervicalis et brachialis dexter. As to the nature of the lesion itself, the author is inclined to ascribe the same either to rheumatic causes, or to the effects of a pachymeningitis cervico-brachialis.

Disturbances of Cutaneous Sensibility in Alcoholics.—Grasset ("Neurologisches Centralblatt") has made twelve careful analyses of cases bearing on this point, and arrives at the conclusion that disturbances of sensibility, both of an objective and subjective character, are common to alcoholics. The objective disturbances are loss of tactile sensibility, alphagesia (painful sensations on contact), thermo-analgesia, electro-analgesia, and particularly analgesia and hyperæsthesia. The distribution of these abnormal sensations is irregular, and follows no particular distribution of nerves. The subjective sensations consist of lancinating pains and of formication. Disturbances of sensation referable to the intestines or deep muscular tissues may also be present. The causation of these phenomena is to be sought for either in a peripheral neuritis, in a lesion of the internal capsule, or frequently in a lesion of the basal ganglia (the pons or the crura cerebri).

Miscellany.

A Section in Diseases of Children was organized in the New York Academy of Medicine on the 29th of November. Dr. J. Lewis Smith was chosen chairman, and Dr. J. H. Fruitnight secretary. The meetings of the section will be held on the fourth Wednesday of each month.

The Medical Society of the County of New York.—At the meeting of November 28th, being an adjourned annual meeting, it was announced by the chairman of the committee on prize essays that no essay had been submitted. The president, Dr. Lawrence Johnson, said that he would spare the meeting the infliction of an annual address, and, after a few remarks on the death of Dr. Woolsey Johnson, Dr. James Knight, and Dr. W. M. Chamberlain, appointed the following committees: On hygiene, Dr. C. E. Billington, chairman, Dr. W. A. Ewing, Dr. L. E. Holt, Dr. J. E. Winters, and Dr. G. T. Elliot; on ethics, Dr. W. H. Katzenbach, chairman, Dr. E. A. Maxwell, Dr. Robert Campbell, Dr. C. E. Bruce, and Dr. C. Milne; on prize essays, Dr. J. D. Bryant, chairman, Dr. A. B. Judson, and Dr. F. A. Castle.

The New York Academy of Medicine.—At the meeting of December 1st, a conference committee was appointed to act with the Board of Health, consisting of Dr. C. R. Agnew, Dr. R. H. Derby, Dr. Stephen Smith, Dr. E. G. Janeway, and the president. Memorialists were appointed as follows: Dr. J. L. Corning, on the late Dr. T. R. Varick; Dr. Francis Delafield, on the late Dr. Alonzo Clark; and Dr. John C. Peters, on the late Dr. Middleton Goldsmith. It was announced that Dr. Goldsmith's library had been given to the Academy. The following nominations were made: For third vice-president, Dr. A. H. Smith and Dr. E. L. Keyes; for trustee, Dr. D. B. St. John Roosa and Dr. Gouverneur M. Smith; for members of the committee on admissions, Dr. E. L. Partridge, Dr. R. C. M. Page, Dr. J. S. Warren, Dr. O. B. Douglas, and Dr. A. J. C. Skene; for members of the library committee, Dr. D. B. Delavan and Dr. Henry Griswold for the short term, and Dr. T. M. Cheesman, Jr., Dr. Daniel Lewis, Dr. G. H. Fox, Dr. P. A. Morrow, Dr. Walter Mendelson, and Dr. M. A. Starr for the full term.

The American Exhibition in London.—We learn that a gold medal was awarded to Messrs. Fairchild Brothers & Foster, of New York, for their digestive ferments, extractum pancreatis, peptonizing powders, pepsin in scales, etc.

The Medical Department of Dartmouth College.—The commencement exercises were held on the 22d of November. The graduating class consisted of twenty-six gentlemen.

Courses in the Microscopical Anatomy and Pathology of the Nervous System are to be given at the Post-graduate Medical School, under the direction of Dr. C. L. Dana.

Common-School Physiology.—The "Troy Daily Times" quotes the following from a Philadelphia newspaper: "A pupil in one of the public schools of this city complied recently in the following manner with a request to write a composition on the subject of a physiological lecture to which the school had just listened: 'The human body is made up of the head, the thorax, and the abdomen. The head contains the brains, when there is any. The thorax contains the heart and the lungs. The abdomen contains the bowels, of which there are five: A, E, I, O, and U, and sometimes W and Y.'"

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for October, there were 7,370 deaths reported during the month, including 38 from cerebro-spinal fever, 182 from typhoid fever, 104 from malarial diseases, 4 from small-pox, 113 from scarlet fever, 15 from measles, 13 from erysipelas, 14 from whooping-cough, 707 from croup and diphtheria, and 53 from puerperal diseases.

The Health of Boston.—During the week ending Saturday, December 3d, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 38 cases and 6 deaths; scarlet fever, 72 cases and 15 deaths; typhoid fever, 18 cases and 2 deaths; measles, 3 cases. There were also 27 deaths from consumption, 20 from pneumonia, 2 from whooping-cough, 20 from heart disease, 14 from bronchitis, and 9 from marasmus. The total number of deaths was 197, against 157 for the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 2d:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 12th corresponded to an annual rate of 20 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Brighton, viz., 9·3, and the highest in Oldham, viz., 29·6 in a thousand. Small-pox caused 17 deaths in Sheffield and 1 in London.

London.—One thousand five hundred and sixty-four deaths were registered during the week ending November 12th, including 38 from measles, 62 from scarlet fever, 30 from diphtheria, 33 from whooping-cough, 1 from typhus, 17 from enteric fever, 12 from diarrhœa and dysentery, and 1 from small-pox. There were 438 deaths from diseases of the respiratory organs. Different forms of violence caused 44 deaths, and 9 suicides were registered. The deaths from all causes corresponded to an annual rate of 19·4 in a thousand. In greater London 1,960 deaths were registered, corresponding to an annual rate of 18·9 in a thousand of the population. In the "outer ring" 15 deaths from diphtheria, 13 from measles, 12 from scarlet fever, and 8 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 12th in the sixteen principal town districts of Ireland was 25·3 in a thousand of the population. The lowest rate was recorded in Drogheda and Kilkenny, viz., 8·5, and the highest in Lurgan, viz., 46·2 in a thousand.

Dublin.—Two hundred and seventeen deaths were registered during the week ending November 12th, including 1 from small-pox, 10 from measles, 5 from whooping-cough, 20 from scarlet fever, 3 from enteric fever, 3 from diarrhœa, and 3 from dysentery. Diseases of the respiratory organs caused 47 deaths. Four accidental deaths were registered, and in 43 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 32 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 12th corresponded to an annual rate of 19·9 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Aberdeen, viz., 15·1, and the highest in Paisley, viz., 29·1 in a thousand. The aggregate number of deaths registered from all causes was 498, including 7 from measles, 17 from scarlet fever, 10 from diphtheria, 26 from whooping-cough, 6 from fever, and 8 from diarrhœa.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,821,222, during the week ending October 29th corresponded to an annual rate of 19·7 in a thousand. The lowest rate was recorded in München-Gladbach, viz., 9, and the highest in Breslau and Potsdam, viz., 28·2.

Netherlands.—The deaths registered in the twelve principal cities of the Netherlands during the month of September, 1887, having an aggregate population of 1,102,200, corresponded to an annual rate of 12·8. The lowest mortality was recorded in Dordrecht, viz., 14·8, and the highest in Maastricht, viz., 22·8.

Mayence.—Three hundred and seventy-four deaths were registered during the quarter ending September 30, 1887, of which 186 were of children under five years of age and 33 adults over seventy years old. The causes of death were chiefly affections of the digestive organs, due to hot weather. Scarlet fever and whooping-cough prevailed. Abdominal typhus occurred to some extent, but not in a degree higher than usual in the time of year under consideration.

Athens.—The United States consul, in his dispatch dated November 12, 1887, states that "the quarantine of observation of five days imposed on all arrivals from Italian and Sardinian ports has been reduced to a simple medical inspection, except on arrivals from ports comprised between Gaeta and Cobrone in the southern part of the peninsula."

Santiago de Cuba.—The sanitary inspector reports for the week ending November 12, 1887, that "yellow fever has made its appearance in the port, the captain and two sailors of a Spanish brig having succumbed to it four days after being attacked. There are no other ships in the harbor just now, excepting three Spanish men-of-war. At the military hospital there are at present 12 cases of yellow fever under treatment, all the cases being of newly arrived recruits from Spain. Eight deaths have been recorded this week. No other contagious diseases prevail at present, small-pox and scarlatina having totally disappeared. Malaria, as usual, very common, but seldom with fatal results."

For the week ending November 19th, the inspector reports that no other cases of yellow fever have appeared in the harbor. At the military hospital a few cases (6) are under treatment, and there have been 5 deaths from yellow fever recorded this week, all among newly arrived soldiers.

Havana.—The sanitary inspector reports for the week ending November 19th, 9 deaths from yellow fever and 47 from small-pox.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	Novemb'r 12	2.260,045	879	..	....	10	....	15	9	34
Glasgow	Novemb'r 12.	545,678	223	..	....	....	...	....	5	7
Warsaw..........	November 5.	439,174	263	..	....	13	....	....	12	6
Rome............	Septemb'r 24.	372,779	266	..	....	15	....	7	....	2
Calcutta	October 25.	433,219	212	20	...	....	....	....	....	1
Amsterdam	Novemb'r 12.	378,686	157	..	....	....	....	....	....	2
Copenhagen......	November 1.	290,000	170	.	....	....	....	2	4	2
Munich..........	November 5.	269,000	107	..	...	....	....	....	1	3
Palermo	Novemb'r 13.	250,000	125	..	....	....	1	1	....	2
Belfast...........	Novemb'r 12.	224,422	96	..	....	....	1	....	3	2
Genoa	November 5.	179,556	95	..	....	13	1	....	...	....
Genoa	Novemb'r 12.	179,556	115	..	....	14	1	....	....	
Leipsic...........	Novemb'r 12.	170,000	51	..	....	....	....	....	....	
Trieste...........	October 29.	150,157	71	..	....	10	....	....	2	
Trieste...........	November 5.	150,157	89	..	...	10	....	....	3	
Toronto..........	Novemb'r 19.	130,000	26	..	....	....	....	....	....	
Toronto.	Novemb'r 26.	130,000	32	..	....	....	....	2	....	2
Leghorn	Novemb'r 13.	101,357	38	..	....	..	....	2	....	....
Cienfuegos	Novemb'r 21.	35,464	19	..	3	5	....	....	....	....
Guayaquil	November 5.	30,000	52	..	....	12	...	...	....	....
Gnayaquil	Novemb'r 10.	30,000	46	..	....	14	....	....	....	....
Gibraltar	November 6.	23,631	7	..	...	....	....	....	....	1

United States.

Tampa, Fla.—Yellow Fever.—The following telegraphic communications have been received from Dr. J. Y. Porter, quarantine inspector:

"*November 29th.*—One new case to-day; no deaths. City authorities have established a quarantine against refugees, imposing a fine and ejection. The commercial quarantine against this place is raised by railroad authorities and the Florida Protective Association, bedding, clothes, and fish excepted. All other shipments can be received. Through-tickets can be sold from here to all points outside of Florida without a health certificate, and without detention at quarantine or fumigation camp, to points within the State. A medical certificate stating the party has had yellow fever, a detention at fumigation camp over one train. Thermometer to-night, 60°."

"*November 30th.*—To-day 3 cases, no deaths; for week ending 30th, 12 cases, 1 death—making total cases approximately 390, and 72 deaths. Three cases in hospital. Thermometer to-night, 58°."

ANSWERS TO CORRESPONDENTS.

No. 104.—We understand that the preparations you mention are to be had of Messrs. Hazard, Hazard, & Co., Twenty-fourth Street and Broadway.

No. 105.—We have had no personal experience with the avitreous thermometer, but we infer from what we have heard said of it that its only advantage is that it is not fragile. For the present, we should prefer the ordinary glass thermometer.

No. 106.—A candidate for admission into the medical corps of the navy should write to the Secretary of the Navy, asking for permission to appear before the examining board, and should inclose a certificate of good moral character and a letter from his preceptor. When he appears before the board, he is required to write a "preliminary letter," answering certain questions as to his birth, education, etc., and to undergo a rigid physical examination. The second day, he writes a thesis. The third day, he writes answers to from ten to fifteen written questions, usually covering points in anatomy, physiology, practice of medicine, materia medica, chemistry, and therapeutics. Then about two days are devoted to an oral examination, and one day is given to operations on the cadaver, the recognition of drugs by their appearance, the use of the microscope and other instruments of precision, diagnosis in hospital wards, and the writing and compounding of prescriptions. Much importance is attached to general literary and scientific attainments, and especially to the candidate's excellence in spelling, grammar, and precision in writing.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, December 17, 1887.

Original Communications.

TUBERCULAR LARYNGITIS.*

By HENRY L. SWAIN, M. D., New Haven, Conn.,

LECTURER ON DISEASES OF THE THROAT AND EAR IN THE MEDICAL DEPARTMENT OF YALE UNIVERSITY; FORMER ASSISTANT OF PROFESSOR HAGEN IN LEIPSIC.

In these days of inquiry and of great activity on the part of the profession as a whole to make advances in the knowledge and therapeutics of disease, together with the demand for the latest views in every sphere and branch of medicine, one can hardly attempt the consideration of any subject preparatory to giving his fellows the results of such investigations but that he finds some one else has just prepared and published an exhaustive paper on the same subject. Of late there have appeared a number of articles the themes of which have been the same as the one before us at present, and doubtless the very views I am about to present are already old to many of you. I shall therefore beg for a double portion of indulgence as you bear with me while I give you some of the salient points in a not unimportant or uninteresting subject.

Under the conditions of our life as a people at the present day, and in this climate of ours, catarrhal and pulmonary complaints form a very large proportion of the cases which we as active practitioners of medicine are called upon to treat, and of all pulmonary diseases phthisis pulmonum is the most frequent and most deadly. With all of these complaints a laryngitis is frequently associated, and with many almost a constant accompaniment. This latter holds especially true of tuberculosis pulmonum, and the laryngitis in a large majority of instances assumes, sooner or later, a specific tuberculous form. It is, then, a laryngitis characterized by a distinctly tuberculous process that I fancy to be understood by the term tubercular laryngitis, and not the simple laryngitis which I have mentioned as so frequently occurring in tuberculous patients, to which I invite your generous attention.

We have spoken of the intimate relationship between phthisis pulmonum and tuberculous laryngitis. What is this relation? Does the specific laryngitis precede the lung affection, bearing a sort of ætiological relation, or is it not a result of the same? In answering these questions it will be of profit to look into the opinions of the profession at large as given to us in literature.

Ulcerative or tuberculous laryngitis was first described by Morgagni in the eighteenth century, but was never fully considered until the beginning of the present century. We find the earlier authors of the opinion that ulcerative laryngitis not only might occur previous to a detected lung difficulty, but even assist in the production of the same. These same men entertained an idea that there might be a difference in ætiology or nature between ulcerative tracheitis and laryngitis. Cayol, who wrote in 1810, was the strong upholder of this opinion.

Louis (1),* writing in 1825, and Andral, about the same time, together with Trousseau and Belloc (2) (1837), were decided opponents of this view. The latter speak very strongly against the dual origin of laryngitis and tracheitis ulcerosa, while they are equally positive of the fact that an ulcerative laryngitis can exist without previous disease of the lungs, an opinion which Louis was the first to contradict and flatly negate. The latter thought that a real tuberculous affection of the larynx did not exist after the fifteenth year, and that the ulcerations, where they existed in undoubted cases of tuberculous disease of the lungs, were of a simple catarrhal nature, with no deposit of real tubercle.

Trousseau and Belloc make no definite statement as to this last fact, yet were probably in its favor, as they say that ulcerations in the intestines of tuberculous patients contain small, hard bodies, which were taken for tubercle, whereas in the trachea and larynx no real deposits were found.

Ryland (3) (1841) thinks that most cases of ulceration occur in phthisical patients, believing, however, that ulcerations may be extensive and not be connected with any lung trouble, as also that ulcerations occurring in a phthisical patient are not necessarily caused by the lung disease—*i. e.*, are not tubercular. Those ulcerations which occur in connection with phthisis choose different localities from those in a simple or idiopathic laryngitis.

Horace Green (4) (1858) discusses the subject at some length, and comes to the conclusion that the ulcers in the larynx in certain cases are really tuberculous in their nature. He quotes at length from a then lately published article by Professor Ewald Hasse, of Zurich, who stated that real tuberculous ulcers of the larynx did exist, and that these might not necessarily be caused by the matter expectorated, but begin as a distinct, sub-epithelial deposit of tubercle cells, which subsequently ulcerated through the surface. Green cites a large number of cases of ulcerous laryngitis which were accompanied by marked tuberculous pulmonary lesions, and which were entirely cured by the topical treatment with nitrate of silver, the pulmonary disease vanishing as well. He does not consider these ulcers as being all simple or non-tubercular.

The later authors, especially those writing since improved methods of diagnosis of lung affections and the use of the laryngoscope have been introduced, are in the main agreed upon the following ideas: While not denying the possibility of a tuberculous affection of the larynx existing previous to and being perhaps causal of a like tuberculous affection of the lungs, still they affirm that clinical facts present a strong weight of evidence against such an occurrence. Or, if such a state of things really occurs, it is extremely rare. Friedreich (5), Mackenzie (10), v. Ziemssen (8), Strümpell (11), Niemeyer (7), Solis-Cohen (13), Ziegler (12), Lennox Browne (14), all have expressed opinions similar to that just stated, Ziegler and Lennox Browne being, however, very strongly in favor of a primary tubercular laryngitis, whereas Tobold (6), Flint (9), and Heinze (21) do not believe in the existence of this kind of laryngitis, at least as found clinically. Heinze, who made the most of his observations on the post-mortem table and with the microscope, says that he never saw a case which he proved microscopically to be a tuberculous laryngitis, without also finding tuberculous processes in other parts of the body, usually, of course, in the lungs, and these same processes were apparently of an older date. Other observers, Tobold and Flint for example, who view the matter entirely from a clinical standpoint, find that they hardly ever see a tuberculous laryngitis without being able to diagnosticate a lung difficulty. Mackenzie, speaking of this matter, remarks, if a tuberculous deposit once exists in the lungs, we know how prone other weak and diseased organs are to become infiltrated with like matter. The larynx, either by heredity, existing catarrh, or over-use, being diseased or weakened, becomes a second place for the manifestations of the tubercles. Strümpell and Ziegler, considering the *Bacillus tuberculosis* as the cause of all tuberculous manifestations, find it very easy to conceive of a primary specific laryngitis. The bacilli need only to have a proper condition of the parts on which they are placed to be able to flourish there, and such a condition would be furnished by a chronic laryngitis, especially if this had already led to erosions or abrasions of the membrana mucosa. A colony of the tubercle bacilli once started, how easy it would be for them to find their way into the deeper layers of the mucosa, and thence into the general circulation! What might be true of the larynx will be eminently so of other portions of the upper air-passages, where, owing to the secretions being longer delayed, a better pabulum would be furnished to the bacilli. It is a fact that the epithelium of the mucous membrane in any of these situations is perforated by openings sufficiently large for leucocytes to pass out into the cavity of the mouth and throat, and, these openings remaining patent, how easily the bacilli could enter! *

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* Read before the New Haven, Conn., County Medical Association at its autumn meeting, October 20, 1887.

* The numbers in parentheses refer to the bibliography at the end of the article.

Mr. Lennox Browne, whose interesting observations have been so recently brought to our notice, sums up the matter very briefly, and his conclusions are such as to voice the conviction of every honest observer. Bacilli may be conveyed to the larynx by means of the general circulation, the organisms having entered the same by the lymphatics, or, in the case of cavities, may be carried in the sputa. The former, as it does not involve a breach of surface, is the most probable route in the commoner forms of laryngeal tuberculosis.

Erosions, non-tuberculous in character, may appear in the larynx of a tuberculous patient; doubtless some of those that heal are of this nature.†

Clinical evidence has long warranted the supposition that laryngeal may precede a pulmonary tuberculosis. Recent facts have proved the truth of this hypothesis.

In the fauces and pharynx a nidus may be formed by the absorption of the contaminated secretion and the bacilli get into the general circulation.

Clinical evidence would show that there is a possibility of a primary faucial tuberculosis, but the fact has not yet been verified by post-mortem evidence.

This primary infection would mean a previous breach of continuity. Wounds and the places left after extraction of teeth have been starting-places of an infection, the writer instancing several cases to prove this statement.

To speak of personal experience, I have never seen a case of primary laryngeal tuberculosis, but do not doubt the fact of its occurrence, although it must either be very rare or very rarely get into the physician's hands before the lung symptoms are evident. It would seem thus rare, as I neither saw nor found records of such cases in the clinics at Leipsic, where I had abundant opportunity to make observations in a very large number of cases, nor have I since seen any such cases. Von Ziemssen makes a similar statement.

Granting the possibility of a primary tuberculosis, are there any predisposing causes of this and the usual tuberculous affection of the larynx? Undoubtedly a pre-existing laryngeal catarrh of a subacute or chronic type may dispose toward the localization of tuberculosis. Then all causes of laryngeal catarrh are remote predisposing causes. Prolonged strain or over-use of the larynx, catarrhal affections of the nose and pharynx, and heredity, are all more or less remote but powerful influences.

Sex seems to be of influence in this way, that the males are more frequently affected than the females.

The greatest number of cases of this form of laryngitis occurs between the ages of twenty-one and thirty, the time when phthisis pulmonum is most frequent.

Let us for a few moments describe some of the chief peculiarities of tubercular laryngitis. First, are there any pretubercular manifestations? A marked anæmia of the parts must lead us to strongly suspect a beginning tuberculosis; indeed, a marked anæmia of any considerable portion of the throat, especially the fauces, should lead us at once, where there are any catarrhal symptoms, to suspect and search for a beginning tuberculosis. So, also, the reverse, a decided and persistent hyperæmia of the parts, although possessing no especial peculiarities to distinguish it from other redness and congestion, will often immediately precede the manifestations of tubercle. The hyperæmic state may follow immediately after the previously mentioned anæmia, and the transition may be brought about by a so-called cold.

Tuberculous changes in the larynx take place in either one of two ways, which eventually become alike, as the end of both is ulceration.

There occurs at first a simple erosion, non-tubercular in its nature, which becomes infected with a specific bacillus, and eventually is a real tuberculous ulceration, having broadened, deepened, and become eroded, also containing in its rough walls small deposits of tubercle. A second and more usual way is that the lower layers of the mucosa become infiltrated with the deposit of tubercle cells and a real tubercle results. According as this is large or small, it protrudes the membrane in that locality, and, if it progresses, eventually ulcerates through, an open ulcer resulting. The deposits of tubercles may be extremely small, the cheesy deposit being a mere layer immediately under the epithelium, which it eventually involves. These deposits are frequently seen ante mortem as spots yellow in color, appearing under the more or less transparent epithelium. They may remain for long periods without any apparent change, usually, however, breaking through the outer layers of the mucosa.

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* See an article by the author in the "Deutsches Archiv für klinische Medicin," Bd. xxxix.

† C. C. Rice, of New York, says in only about 65 per cent. of the cases is there real tubercular deposit.

On the other hand, a large amount of general infiltration may take place without any or with only a small amount of real cheesy tuberculous matter being present; indeed, even when not accompanied by œdema, it may assume such proportions as to threaten to obstruct respiration entirely.

A very characteristic—indeed, by Mackenzie considered as almost pathognomonic—form of infiltration and enlargement is the swelling of the ary-epiglottic fold into a peculiar pyriform shape which is described by Mackenzie as follows: "The ary-epiglottic folds are like two large, solid, pale, pyriform tumors, the larger ends being against each other in the median line, and the smaller ones directed upward and outward. . . . When this characteristic, semi-solid, pyriform swelling of these folds is present, it is almost impossible to mistake the disease." Frequently only one side is enlarged, and also the swellings do not always present this simple shape, but may vary considerably according as the bulk of the swelling is located. Thickening in this situation is of very frequent occurrence, being noticed 397 times out of 500 in Mackenzie's cases.

The ulcerations, once established, are usually at first small and numerous, but as they extend become coalesced, forming large, irregular depressions, and may, as in the epiglottis, cause extensive losses of tissue. The smaller ulcers are at first superficial, but, as the tubercles in their walls break down and new ones are formed, they gradually deepen as well as broaden, but frequently, even when quite large, have not reached the cartilages. When the latter is the case, perichondritis is usually set up, and necrosis of the cartilages may take place. The infiltration usually involves all the layers of the mucosa, and frequently the submucosa, still the initial deposit in any single locality is usually near the surface, seldom being as deep as the racemose mucous glands.

The parts of the larynx most frequently affected by thickening or deposits are, according to Mackenzie, the following, giving them in the order of their relative frequency: The ary-epiglottic fold, the epiglottis, the vocal cords, the interarytenoid fold, and the false vocal cords, while the ulcerations are found on the vocal cords, epiglottis, interarytenoid fold, false vocal cords, and ary-epiglottic folds.

The tuberculous process differs somewhat in its character as it occurs in one part or the other in the larynx. Occurring on the arytenoid cartilages, the ulceration may pass down into and around them, sometimes causing a perichondritis of such severity that the whole cartilage becomes necrosed, and has been in some cases detached and expectorated. Detachment of the vocal cord is, of course, a result in this case, and frequently follows ulceration in this situation when near the processus vocalis.

On the vocal cords proper, owing to the resisting nature of the fibrous portions, the ulceration will proceed in the direction of the least resistance—viz., along the vocal cord. So it is not infrequent that, on examination, the thickened vocal cords are found grooved out on their free edges by a longitudinally placed ulcer. This peculiar appearance may remain in very much the same condition for a long time, but may, as before stated, when the ulcer is near the posterior end, cause a breaking down and loss of one or both cords with resulting aphonia. This complete loss of the cords is sometimes more apparent than real, for a swelling of the false vocal bands may so conceal the true ones from our vision that the latter appear wanting. The false bands may conceal ulcers on their under surface.

When the inter-arytenoid fold is involved, its thickening is of course a direct impediment to the movements and approximation of the arytenoids, and consequently the posterior segments of the vocal cords fail to reach the median line, causing the whispering voice or aphonia. Erosions and ulcerations in this locality, even when not tubercular, are exceedingly difficult to heal on account of the almost incessant motion to which the parts are subjected.

The specific ulcers progress in spite of everything, and are painful as well as very irritating, for the mucus and remains of lung sputa are apt to remain clinging in this position, being, of course, a constant source of irritation to the eroded surfaces.

When the process is situated in the folds of the ary-epiglottic ligament and also in the epiglottis, there is frequently a very considerable enlargement of the parts, and in these cases œdema often makes its appearance. Under these conditions the epiglottis rises up, thickened to many times its normal size, the ulcerations, if present, being upon its posterior surface, and the whole may be frequently seen by merely depressing the tongue of the patient. Viewed laryngoscopically, such an epiglottis looms up in immense proportions and seems an almost insurmountable obstacle to the passage of the food into the pharynx, especially if, as some will have it, the matter swallowed passes over the epiglottis into the grasp of the constrictors. As a matter of fact, in these conditions the epiglottis can not assume a prone condition, the glottis is not accurately closed, and fluids especially, as well as small particles of the solid ingesta, are very apt to pass into the larynx, causing spasmodic cough. The ulcerations, however, may have produced quite an opposite state of affairs, and on examination nothing but the eroded stump is to be seen, but seldom is such wholesale destruction the case except in syphilis.

In rare cases, where there has been no particular press of symptom other than perhaps a little huskiness of voice and difficulty in deglutition, on examination the gray vocal cords will be found to be very deeply situated, seemingly stretched across the bottom of a tube formed by the infiltrated and thickened ary-epiglottic folds and epiglottis. The patient may indeed be in danger of suffocation and have no idea of the matter whatever.

Œdema as present in tuberculous cases usually comes in connection with or on tissues already affected by infiltration, and is consequently very different in its character from the œdema in a simple laryngitis, being much less translucent and more difficult to reduce than the latter.

Immediately below the vocal cords the mucous membrane in non-tuberculous cases is sometimes thickened and infiltrated, forming the so-called chorditis hypertrophica inferior. This is capable of assuming such proportions as to seriously narrow the lumen of the larynx. In some tuberculous cases I have seen this fold enlarged and ulcerated, causing a considerable hoarseness even if the vocal cords remained intact, which, however, they seldom do for any considerable length of time.

Exceptionally the ulcerations involve every part of the larynx, and these form some of the saddest cases which we have occasion to treat. There is scarcely any semblance to a larynx, all form and comeliness having been destroyed; neither cords nor epiglottis; no voice, scarcely any audible sounds except the constant cough and stridor in breathing; to swallow either food or medicine with any comfort is an impossibility, and yet these same patients have often more faith in their ultimate recovery than a person with a common cold, the same thing that we so often see in phthisis uncomplicated with laryngeal disease.

The subjective symptoms of laryngeal phthisis, excepting, perhaps, dyspnœa and dysphagia, are only the exaggeration of those felt in an ordinary laryngeal catarrh, and need not detain us long.

As we have to do in most cases—in all sooner or later if a complete cure is not reached—with a local affection, occurring in the course of a constitutional disease and perhaps the result of the same, the symptoms of the two affections are often not to be separated. Cough and expectoration are common to both, and, while the latter symptom is not greatly influenced by a laryngitis, the former is increased to a very distressing and grave degree. In the early stages, before ulceration of the parts has begun, a dry, hacking, tickling cough is not to be considered as coming from the lungs. Otherwise it is very difficult to estimate what part of the cough is due to the larynx and what not.

Hoarseness is an almost invariable accompaniment of the laryngitis, and in tuberculous cases may present every degree, from a mere lack of clearness and resonance in the voice to complete aphonia, depending on the extent and localization of the destructive processes.

Hoarseness is a very frequent accompaniment of phthisis, even when no real laryngitis exists, so it is by no means a diagnostic symptom.

Sore throat or pain independent of deglutition or coughing does occur in this form of laryngitis, and has usually a burning or pricking character, especially in the pre-ulcerous stage of marked hyperæmia.

Dysphagia occurs, according to Mackenzie, in almost a third of the cases, and it is due to two or three causes. Sometimes it is the mere pain of the act of swallowing, due to the contact of the matters swallowed with the ulcerated parts, or to mechanical interference on the side of the greatly enlarged epiglottis and thickened ary-epiglottic folds, or the inaccurate closure of the parts allows the ingesta to get into the chink of the glottis. In advanced cases all three of these causes may be in operation.

Dyspnœa is occasionally purely laryngeal in its origin; oftener, however, the advanced pulmonary degenerations are the cause of shortness of breath. Inability to close the glottis, according to von Ziemssen, is frequently an operative cause of this symptom.

To give any precise method or points whereby a given laryngitis may be diagnosticated as tuberculous or not would be very difficult if not well-nigh impossible. If the characteristic semi-solid, pyriform swellings of the ary-epiglottic folds are present, it is almost impossible to make a mistake in diagnosis, but, where these are not present or are not characteristic, the way is not so clear. An exact and careful examination of the lungs will usually decide matters, but if nothing is found which can decide us, then we must not neglect the examination of the sputa.

Catarrhal ulcerations are nearly always very superficial, having the characters of a mere erosion, and are most frequent on the vocal cords. The hypertrophies which result from simple catarrh would seldom be taken to be tuberculous, being less in thickness and less general in their extent. Catarrhal ulcerations are seldom anæmic on their borders, in that respect resembling the syphilitic. The œdema which comes in simple laryngitis may be mistaken for the thickening and infiltration of a tuberculous affection, but usually its greater transparency and semi-fluid condition will readily distinguish it, although œdema will be found added to a tuberculous enlargement.

To distinguish tubercular from syphilitic lesions is also not always easy. The absence of marked lung symptoms or disease, the extensiveness of the ulcerations, and the finding of plaques or their cicatrices in the pharynx or mouth, will usually decide the matter for syphilis. An accurate physical examination of other parts, together with the history carefully elucidated, will often reveal to us what we are seeking. Syphilitic ulcers are of more rapid growth, are larger, deeper, and broader than is usual in phthisis, also frequently single or unilateral, while tuberculous ulcers are numerous, smaller, and bilateral. When the epiglottis is affected, it is oftener the edges on one side and the anterior surface which are involved in syphilis, the reverse being true of tuberculosis. More of the organ is often destroyed in syphilis. The marked anæmia so often seen surrounding a tuberculous ulcer is reversed in the syphilitic. Syphilitic thickenings and infiltrations are usually irregular. Ulceration over the arytenoid cartilages is rare in syphilis, very common in tuberculosis, the same being true of the ventricular bands and the anterior commissure of the vocal cords. The vocal cords themselves are frequently attacked in both, but oftener in syphilis only one is affected.

The prognosis of laryngeal is as unfavorable as that of pulmonary phthisis—indeed, is very dependent upon the latter. The reports of cases of laryngeal phthisis being cured, and permanently so, are, as is natural, always taken with a grain of salt, and yet I have no doubt that some cases really come to a stand-still and cicatrices occur.

Mackenzie says: "Of all the cases I have ever seen, I have only known of four cases where I have reason to believe that the disease was entirely arrested. There were distinct tuberculous lesions in the lungs; in one, a cavity." I have seen tuberculous ulcers heal, but never a case permanently arrested, for the lung symptoms continued.

If the course of the pulmonary phthisis has been acute and rapid, we can of a surety prognosticate the same of the laryngeal affection, and the reverse is usually the case; that, in old chronic cases, the ulcers will assume no large dimensions for long periods of time.

If the process remains located in the interior of the larynx, the prognosis is far more favorable than when the outer portions are affected, as these, when ulcerated, interfere so greatly with nutrition, favoring, of course, marasmus.

We may now glance for a few moments at the therapeutics of this disease, and try to glean a few kernels of wheat from the useless chaff.

First and foremost in the treatment of the local affection must be the care of the constitutional or tuberculous lung trouble. The usual rules laid down in the admirable existing treatises on phthisis, its care and hygiene, are to be carried out just as rigidly in cases of laryngeal trouble. Change of climate and hygiene in general, due attention to the kind of food and the manner of its preparation, together with proper medicinal control of the more urgent symptoms, are the first and prime necessities, without which our local treatment will be of little avail. Just here it is perhaps not out of place to speak as briefly and advisedly as possible of some of the various methods which have of late years been much practiced and the results of which have filled our medical periodicals, being each in its time almost a cure-all for the much-dreaded phthisis pulmonum. We have all hoped they were such, but vain has our hope as yet been.

Pneumatic differentiation made its *début* on the stage of therapeutics, was received, welcomed, and applauded by many good men, soon had a great *renommée*, and now seems to have gone into a decline, everything that could be said in its praise having already been said. The mass of the profession, except those who have cabinets, cease to wonder any more, and are looking for something better. While, theoretically, a very nicely and skillfully arranged plan, practically it has of itself been of lasting good in only a comparatively small number of cases of real pulmonary phthisis. A benefit was received by a great many, perhaps a prolongation of life; some have apparently been cured, but by no means a large per cent., while the mass hurry along to their premature graves, unhindered and unchecked.

Intra-pulmonary injections, if possible into the abscesses themselves, of iodoform were tried and are still being practiced. Quite a number of patients seem to be in a measure permanently relieved, notwithstanding that the injections are followed by much pain, and cases of acute pleurisy have resulted. The recommendation of Professor Semmola in 1878 that iodoform internally was of undoubted benefit, even if it did not effect a cure, was the exciting cause of the injections being tried. That the solvents of iodoform are so irritating is the chief objection to their use.

R. Singleton Smith (15) discusses the subject before the International Congress. He says: "If it is true that iodoform internally is of value, then it would be practically of far greater value if introduced into the foci of the disease than when given in much larger doses affecting the entire system." Nevertheless, from his experience, he would not advocate the use of injections in hopeless cases, and not even in those where other and less active measures were accomplishing the desired result. He thought the matter ought to have further trial.

Perhaps no one method has excited more attention and universal comment than Dr. Bergeon's method of gaseous enemata. Many and varied have been the reports both *pro* and *con*, but I think almost all of you will agree with me in the conclusion that it is not what it has been thought to be. Also, the period over which the observations have extended has not been long enough to prove whether the cases were really cured or not. Dr. Bergeon himself can look back over three or four years, and he professes to have permanently cured a great many cases, and in these same the laryngeal and pharyngeal complications which existed were also removed with the lung trouble. Reports of a later date are not all favorable, and the latest is perhaps that of the author before quoted, Lennox Browne. While not condemning the method, he says of it that it is a method of treatment which is still on trial, and, so far as can be judged, it is more favorable in cases of chronic bronchitis than in tuberculosis. Temporary improvement is frequently shown in that there is diminution in the amount expectorated, less pain, and less distress from persistent cough. Still, the permanent effect is doubtful. This is considerable to accomplish in many cases; but I think it would be better, if possible, to follow H. C. Wood's suggestion—that of giving the solution of the gas by the stomach, as he reports almost as good results as by the other much more inconvenient and disagreeable way of introducing the gas into the economy.

Of local interest is the compound oxygen gas, as stored in cylinders under high pressure, and given by inhalation. It is advertised by the physicians who have used it as being excellent in incipient phthisis. Physicians in New Haven have used it with benefit. Having at one time in my care three cases of phthisis in its earliest incipiency that were pursuing a rapid course, I used the gas in them and in two additional cases. Only one of these was much benefited, and he has gone away to the mountains, having continued to improve. One, who had phthisis florida, has died; the others were not at all benefited. Several patients with bronchitis were much improved. I do not wish to express any decided opinion, as my experience is too small, but am willing to have you know what has been the result as far as I have gone.

Following the method of Dr. Kolischer, who, by injecting and applying salts of calcium in the foci of local tuberculous affections, more especially joints, endeavors to bring about the healing of these same lesions, some observers try by internal medication to produce the same or like effects upon the lung tubercles. Lennox Browne refers to this when he recommends calcium hypophosphite as the best of these much-lauded remedies, it being more favorable to the calcification of the tubercles. He does not state that he has seen or hopes to see any marked benefit from the procedure. Kolischer, however, certainly appears to have had very excellent results in the local application. Browne speaks of atropine as being much used by himself as a probable alkaloidal antidote to the symptoms of blood-poisoning which tuberculosis is looked upon as being—a sort of septicæmia. He uses it for its sedative effect as well. Arsenic, as a possible specific, acting in the same way but not in the measure that mercury does in syphilis, has also been recommended.

In reference to atropine I can only speak in commendation, having used it more or less in every case of phthisis which I have under my care, and, barring the effect which it has upon the eyes and throat when an overdose is taken, I have seen nothing but good from it. In the night-sweats it is of great value.

Arsenic, as a tonic to mucous membranes, when given in small doses continued for a long period of time, I have been accustomed to use with apparent benefit, and for much the same reason I have employed it in phthisis in connection with iron and strychnine.

To speak of strictly local applications, they are made in one of two ways—immediately in powders or solutions, intermediately in vapors by inhalation.

For inhalations volatile substances are necessary, and of these the volatile essential oils are the most used and justly the most valued. Oleum pini silvestris, oleum eucalypti globuli, oleum juniperi anglici, balsam peruvianum, and tinctura benzoini composita are examples. Alteratives containing ammonia, iodine, chlorine, thymol, or menthol, are also much used. Most frequently these inhalations are made by means of a more or less complicated apparatus by the aid of steam, sometimes atomized, but better just as it rises from the heated water. Oro-nasal inhalers are used by some physicians, but I have had no experience with them. When a special apparatus is at hand, the inhalation may well be done by its help, and at a temperature of about 140° F. up to 160°, but not higher. The chosen balsam or oil had better be made up in a solution, of which one teaspoonful in a pint of water is used at an inhalation. The carbonate of magnesium may be combined to give support to the particles of the oil. When other apparatus is wanting, a simple and very convenient, as well as inexpensive, method is as follows: First, a flat dish or vessel that will hold a pint or more; secondly, a cone made of stiff brown paper, glazed if possible, about a foot or eighteen inches long, and large enough at the base to cover over the dish. Boiling water is now put into the vessel, a spoonful of the mixture thrown upon it, and the cone placed over the whole, when the steam will come away through the apex of the cone, which has been cut off a short distance from the end. The usual directions about inhaling are to be observed—namely, a full, long, deep, slow inspiration, the mouth being over the opening in the cone; then a slow expiration, the mouth being closed. About six of these inspirations should be done in the minute, and there will be sufficient vapor for about five minutes. If for the first few seconds the steam should be uncomfortably warm, the patient may wait. The advantages of this method are its ease of performance, the erect posture which may be assumed as the funnel slants toward the individual, and its simplicity. It fulfills also every purpose of a more expensive and cumbersome apparatus. I usually rely upon oleum pini silvestris, or oleum eucalypti globuli, or balsam of Peru, the latter being rendered fluid by the addition of a little absolute alcohol before being added to the mixture. Inhalations are usually ordered three or four times a day, and usually relieve the patient, for a few moments at least, of his persistent cough.

Another method of influencing indirectly the state of the larynx, and one constantly prescribed by myself with great relief and benefit, is gargling rightly executed. The method is that of Hagen (23), which is the von Tröltsch (22) method much improved, the latter being well known. The fluids gargled are brought down to the larynx, and, of course, enter the pharynx, even indeed, if the patient properly controls his throat, may pass through the naso-pharynx and come out through the nose at the end of the act. A weak saline or alkaline solution, used in this manner three or four times a day, contributes much to the comfort and well-being of the patients, who invariably are troubled, some to a marked extent, by oversecretion on the part of the nose and pharynx, and the collection of the secretion in large quantities. The effect of the gargle is to remove this constant irritation, which manifests itself even in the larynx, for the secretions pass down the pharynx into it, irritating its ulcerated surfaces, in the disease in question. It is true that atomizers of the single bulb description are used for the same purpose; but, in the long run, the gargle, rightly managed, does better service.

Having referred to the influence which catarrh of the nose and naso-pharynx may have upon the larynx, I must mention a theory of heredity which has to do with the cause, as well as treatment, of phthisis. Of late years most catarrhs of the naso-pharynx and throat have been referred to the stoppage of the nares either through hypertrophies of mucous membranes pure and simple, or, more frequently, by deviation of the septum or irregularities of the same, and the hypertrophy resulting from them. Jarvis (17) propounded the idea that heredity in various families caused deviations of the septum nasi, and he brought forward a number of illustrations in which they were the cause of nasal and naso-pharyngeal catarrh. These, in their turn, caused pharyngeal catarrh and laryngitis. This latter may, as we have already proved, be the starting-point of a local and general tuberculosis. He then instances a number of cases where, by correcting the abnormities in the nose, he has greatly benefited the pulmonary and laryngeal troubles, if any existed, doubting not but that he has cured a number of cases even where grave lesions had already begun. We can, therefore, not pay too much attention to the condition of the upper air-passages.

By bringing medicaments into the larynx, we usually desire to relieve the press of symptoms and, if possible, cure the local trouble. These ends are in view in our treatment topically of phthisis laryngea. Are pain, distressing cough, and constant tickling present, nothing relieves so quickly or for so long a time as morphine, either as an insufflation or in a pigment. An insufflation of a quarter to half a grain of morphine in powdered lactose, or a pigment in which morphine is the principal factor—say half a grain to the drachm, combined with carbolic acid and tannin, two grains each to the drachm of water—will often benumb the parts for from twelve to fourteen hours. This form of pigment is recommended more especially by Dr.

Ingals (16), of Chicago. With the morphine in the powder I usually combine nitrate of silver in the powdered crystals. If the patient can be taught to blow the powders well down into the larynx himself, he could repeat them two or three times a day if necessary.

Iodoform insufflations are also astringent and sedative, especially when there are ulcerations. Prosser James (24) was one who early recommended their use, and attributes much beneficial influence to them. I have found it to be apparently seldom better than some other applications which have at least the advantage of being less disgusting to the patient and his surroundings. I speak this advisedly, having used it as a routine treatment in a large number of cases. In some it has done excellently, and perhaps part of the effect may have been due to the passage of the powder more frequently into the stomach, and the consequent general effect of the medicament. Its congener, iodol, seems to present every good quality and none of the bad ones of its fellow, and, so far as my own experience and that of others is concerned, is fully its equal therapeutically.

Lactic acid has been a very much lauded remedy, and is not without merit. It has been used in two ways—one as a surface application to the parts, and a second by submucous injections. Of this latter, Dr. Major (18) reports—following the method of Dr. Krause, of Berlin, who acted on a previous suggestion by Dr. Herring, of Warsaw—that the early swelling and œdemata disappeared in periods varying from twenty to thirty days, and ulcerative changes were avoided. Very little pain and irritation were experienced; fifteen to twenty minims of a solution ranging from 20 to 30 per cent. were injected at one sitting. Major was very enthusiastic, remarking that the acid was probably the most speedy and efficacious plan of treatment yet introduced for healing tuberculous ulcerations.

Jelinck, speaking of the same matter from his experience at Schrötter's clinic in Vienna, seems to think he has obtained the best results where the solutions were applied to deposits already ulcerated. He, using solutions of from 25 to 50 per cent., and even the pure acid, found the pain the chief objection. Cocaine mitigated this to some extent. Of course the solutions were brought on to the parts directly.

With submucous injections I have had no experience, but of lactic acid as an application or pigment I have a very good opinion, for by it, in at least one case, I have healed and kept in abeyance a tuberculous ulceration of the vocal cords until the end of a phthisis pulmonum, which had meantime progressed unchecked, when the epiglottis was attacked and nothing could stop ulceration and dysphagia with resulting marasmus. I rely upon lactic acid as much as upon any one application.

In cases of dysphagia due to ulceration my plan is to apply cocaine accurately to the abraded surface, and, when the pain has vanished, lactic acid nearly pure, or a saturated solution of nitrate of silver, is applied to the ulcers thoroughly, and perhaps afterward a sedative powder or pigment. The cauterizing of the parts by the strong solutions benumbs the nerve-endings completely, an effect which is increased by the after-powder or pigment, and the patient can often indulge in a full meal with some degree of comfort. This is, of course, an indication when to make these applications, and they should be repeated every third day if necessary. This is essentially the method of Dr. Gouguenheim, of the Lariboisière, excepting that he uses iodoform or iodol after the lactic acid, preferring a wet sponge as a more accurate method of applying the powder. In this or a similar manner very distressing cases of dysphagia are relieved, and the patients can partake of food regularly when they would go for days without it rather than endure the discomfort which comes with eating.

Mackenzie recommends, in apparently hopeless cases of dysphagia, the use of the œsophageal tube, which can be easily passed in most cases. It is only in rare instances that the swelling is sufficient to be a mechanical impediment to the act of deglutition, so the œsophagus is not rendered inaccessible. By this means of feeding, of course, the general nutrition can be markedly benefited, and it allows of stimulation and medication *ad libitum.*

D. Bryson Delavan and Beverley Robinson (20) have both considered this subject at length. Robinson remarks that there are cases where the passage of the stomach-tube causes intense pain, even when the best instruments and great care have been used. For this reason and on account of intoleration of the stomach, we have frequently to desist and fall back on nutrient enemata. When the stomach has recovered much of its tone, then it may be slowly used again. By thus alternately using the stomach and the rectum, we can often accomplish much in the direction of alimentation. Robinson thinks it a great mistake to wait too long before beginning the use of the tube, and would even advocate starting before dysphagia had become marked, hoping by superalimentation to hold the constitutional disease in check. Cocaine, by insufflation or spray, does not seem to mitigate the pain on passing the tube.

In the cases of those who are troubled by the matters swallowed getting into the larynx, the best way is to have everything semi-fluid, and encourage its being taken at a draught so as to make the act of swallowing continuous. A difficulty in these very cases is that extreme shortness of breath will not allow of any very prolonged act of swallowing.

In the "Lancet" for July 2, 1887, R. Norris Wolfenden (19) speaks of a simple method of swallowing in cases of ulcerated epiglottis, which was suggested to him by a patient of his who was troubled in this manner. He lay flat on his abdomen with his feet and body higher than his head, and by means of a tube sucked the fluid up and swallowed it, thereby being able to drink a whole glass of any fluid, whereas in the erect posture he could not take a swallow without being painfully choked and set into spasms. If the method should prove even of passing benefit in such cases, it will indeed be a blessing.

Œdema, threatening suffocation, must be treated by incision and astringents, with counter-irritant outward applications. Lennox Browne speaks of the procedure of scraping out tuberculous deposits in the larynx and then making an application of lactic acid. Unless respiration is seriously interfered with, he does not approve of making fresh wounds in the larynx, as they may afford new foci of infection or disease. Tracheotomy to rest the larynx is worse than useless, as is also intubation, the tubes being too great an irritation. Even from amputating a uvula he would abstain, as giving rise to a possible nidus for a new infected sore.

Tracheotomy in cases where the state of the larynx causes an urgency of symptoms of suffocation is called for only in a few exceptional cases. If suffocation threatens early in the course of a phthisis, tracheotomy may be performed to save life, but in the last stages, when such symptoms are most frequent, the tracheotomy only unnecessarily prolongs a life which has seen enough of suffering without being afflicted with a new one.

As a brief summing up of what has been said, I will quote from Professor Massie (25), of Naples, who thus closed his remarks on this subject:

1. We are still in want of some remedy or remedies to effect a cure of laryngeal phthisis.

2. Notwithstanding this want, the local treatment of the disease is incumbent on every physician.

3. Many cases quoted by various writers are of extremely hypothetical nature, inasmuch as they have not been a sufficient time under observation.

4. Cocaine, iodoform, iodol, and sublimate are perhaps the best of the local remedies [to which I would add lactic acid, differing with the writer, who doubts its great efficacy].

Bibliography.

1. Louis, M.—"Sur la phthisie," Paris, 1825. Quoted by Ryland *et al.*

2. Trousseau et Belloc.—"Traité de la phthisie laryngée," Paris, 1837; Philadelphia, 1839.

3. Frederick Ryland.—"The Larynx and Trachea," Philadelphia. 1841.

4. Horace Green.—"Diseases of the Air-Passages," New York, 1858.

5. Friedreich. — "Krankh. d. Larynx und d. Trachea," Virchow's "Handb. d. spec. Path. u. Therap.," Band v, 1. Abth., 1852.

6. Tobold.—"Chronic Diseases of the Larynx," New York, 1868.

7. Niemeyer.—"Lehrbuch d. spec. Path. u. Therap.," Berlin, 1862.

8. Von Ziemssen.—"Handbuch," Band iv, 1.

9. Flint.—"Principles and Practice of Med.," 1881.

10. Morell Mackenzie.—"Diseases of Pharynx, Larynx, and Trachea," New York, 1880.

11. Strümpell.—"Lehrbuch d. spec. Path. u. Ther.," Leipsic, 1883.

12. Ziegler.—"Pathol. Anatomie," Jena, 1885.

13. Solis-Cohen.—"Internat. Encyclo. of Surgery," New York, 1885.

14. Lennox Browne.—"Recent Views as to the Path. and Treat. of Tub. Laryngitis," read at the Internat. Cong., Washington, 1887; "N. Y. Med. Jour.," report, Oct. 1, 1887.

15. R. Singleton Smith.—"Notes on the Treat. of Pul. Phthisis, more especially by Intrapulmonary Injections." Read as above, "Therap. Gaz."

16. E. Fletcher Ingals.—"Treatment of Laryn. Phthisis," "N. Y. Med. Jour.," Nov. 7, 1885.

17. William Chapman Jarvis.—"Catarrhal Affections of the Nasal Passages as a Cause of Pul. Phthisis," etc., "N. Y. Med. Jour.," Sept. 5, 12, 1885.

18. Major.—Paper before Medico-chirurgic. Soc. of Montreal, "Therap. Gaz.," Detroit, January, 1887.

19. R. Norris Wolfenden.—"Ther. Gazette," September, 1887.

20. Beverley Robinson.—"Alimentation in Laryngeal Phthisis," "N. Y. Med. Jour.," Jan. 23, 1886.

21. Heinze.—"Die Kehlkopfschwindsucht," Leipsic, 1879. Quoted by von Ziemssen, Mackenzie, and others.

22. Von Tröltsch.—"Ohrenheilkunde," Leipsic, 1881.

23. R. Hagen.—"Das Ohr und seine Pflege," Leipsic, 1883.

24. Prosser James.—"Therap. of the Respiratory Organs," London and New York, 1884.

25. Massie.—Report in "Journ. of Laryngoscopy," May, 1887.

MULTIPLE NEUROMATA WITH NEURO-SARCOMA.*

By FRANK HARTLEY, M. D.

Maggie S., a native of Ireland, thirty-three years of age, single, who had lived five years in the United States, was seen November 13, 1886. The parents of the patient were both healthy. There is no history of tumors in the family, nor has the patient suffered from any but slight ailments. Up to the age of eighteen she was free from any tumors. At this time she first noticed a small tumor of the size of a pea in the palm of the right hand over the os metacarpi indicis. She does not remember to have injured her hand in any way that one could consider a cause for its development. The tumor grew slowly, giving her no trouble for five years, at which time it became painful and interfered with grasping objects firmly. At twenty years of age another tumor was noticed in the forearm just above the wrist on the flexor surface. It was of about the size of a walnut and perfectly movable beneath the skin. At no time has the tumor been painful to pressure, nor has she experienced at any time numbness in the hand or fingers. nor any weakness in the muscles moving the fingers. At twenty-five years of age she noticed a tumor upon the calf of the left leg of about the size of a walnut, but which at no time gave her any inconvenience. At twenty-nine years of age (four years later) she observed another tumor on the flexor surface of the forearm just above the former one. At thirty she noticed a tumor upon the ulnar nerve above the internal condyle. These were perfectly movable, not painful, and grew slowly in size, giving no symptoms. At thirty-two she noticed that her wrist was increasing in size, especially upon the flexor surface, and that other tumors grew upon the forearm and hand, and one very rapidly just above the elbow upon the internal surface of the arm. The presence of these tumors and the enlargement of the wrist did not at first interfere with her work. There neither has been nor is there at present any actual paralysis, anæsthesia, or paræsthesia in the hand or fingers. Seven months ago the enlargement at the wrist began to grow very rapidly, giving her great pain and rendering her unable to use the hand for any form of work.

Status Præsens.—The patient is a strong Irish girl with no pulmonary or renal disease. The heart is normal. The right arm, forearm, and hand are the seat of a number of tumors. Commencing at the hand and tracing these tumors toward the trunk, one finds upon the flexor surface of the proximal phalanx of the third finger a small movable tumor. It is soft, pseudo-fluctuating, and can be moved laterally but not longitudinally. It is not attached to the skin, and is apparently inclosed within a distinct capsule. In the palm of the hand over the os metacarpi indicis is another pseudo-fluctuating and distinctly encapsulated tumor. It is not movable longitudinally, but can be moved from side to side, and is not adherent to the skin. At the wrist one notices a somewhat oval swelling easily distinguished as lying beneath the flexor tendons. It is seen to involve the bones of the forearm and to completely envelop the lower end of the radius. It embraces both the radius and ulna, but is more pronounced upon the radial side. As compared with the opposite side, its circumference is longer by five inches. The longitudinal diameter is four inches. On the flexor surface, just above and over its upper border, is a separate oval and lobulated tumor which, though loosely attached, is adherent to the general enlargement at the wrist. It is more adherent than those tumors previously mentioned, and is situated deeper beneath the integument. On the ulnar side of the forearm there can be seen a tumor of about the size of a hen's egg, movable, and not apparently attached to the surrounding tissues except at its lower portion. At the elbow, lying over the internal condyle of the humerus, is a large, oval-shaped tumor, three inches long, one inch and three quarters broad, movable laterally, and not attached to the surrounding tissues. On the outer surface of the forearm is a tumor situated about midway between the elbow and wrist, about an inch to the outer side of the tumor in the median line on the flexor surface. On the shoulder a small tumor can be seen situated just beneath the skin and over the posterior half of the deltoid muscle, and upon the calf of the left leg a tumor about the size of a small lemon.

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* Read before the New York Surgical Society, November 23, 1887.

Operation.—The usual antiseptic precautions being observed, an exploratory incision was made into the enlargement involving the wrist, and, the tendons and median nerve being pushed aside, the mass was incised. It consisted of a soft, pultaceous, grayish-red mass, which bled very freely and broke down very readily upon the slightest manipulation. The lower end of the radius and the first row of carpal bones were found to be involved. A spindle-shaped swelling continued up the forearm, surrounding principally the radius.

On account of the other tumors on the forearm and the tumor over the internal condyle of the humerus, which at present was growing rapidly, and the fact that the tumor at the wrist had already involved the radius and the wrist joint and was in all probability a malignant neuro-sarcoma, an amputation of the arm above the tumor over the internal condyle of the humerus was thought the most advisable procedure, provided the nerves at the point of election were not enlarged nor presented any observable vascular change.

An amputation was performed in the middle third of the arm, and the small tumor over the deltoid was extirpated. The nerves at the site of the amputation were not enlarged, showed no vascular change, nor was there any enlargement in the cords of the brachial plexus. The tumor upon the short saphenous nerve was also extirpated, with resection of the nerve and suture. The hand, forearm, and arm were dissected and the nerves and bones were saved and prepared as in the specimen.

Here we see that a small tumor situated upon the ring-finger is connected with the digital nerve, the fifth branch of the median nerve. It does not entirely surround the nerve, but is situated upon one side. The digital nerve is not larger above the tumor than in the rest of its course. The next tumor is situated between the heads of the metacarpal bones belonging to the index and middle fingers upon the fourth branch of the median nerve. It does not entirely surround the nerve, but is situated to one side of it. The nerve above the tumor is larger than normal, varicose in appearance, and at a point an inch and a half below the division of the median nerve enlarges, gradually passing into the median nerve, which is for a space of an inch and three quarters very irregular, thickened, and varicose, but having no distinct tumor upon it.

At the level of the wrist we come to the tumor which had involved the lower end of the radius and the wrist joint, destroying the cuneiform bone and the lower end of the radius and extending upward in the soft parts to the tumor upon the anterior interosseous nerve. The median, ulnar, and radial nerves pass over the tumor on the anterior or flexor surface, as well as the palmaris longus, flexor sublimis and profundus digitorum, flexor carpi radialis, and ulnaris muscles. The extensor tendons were closely adherent to the dorsal surface, as well as the pronator quadratus to the flexor surface of the tumor. The nerves and tendons passing over the tumor are not involved in the mass, except the pronator quadratus.

Of the nerves, the median alone shows any change. It is irregularly enlarged, varicose in appearance, and continues so up the forearm to the bend of the elbow. On the ulnar nerve, just above the tumor at the wrist, is another small tumor of about the size of a walnut. On the internal cutaneous nerve is also a tumor of the same size and shape. At the upper margin of the tumor at the wrist is still another connected with the anterior interosseous nerve, and which is distant from the tumor about half an inch, but connected with it by a well-marked nerve-branch. It is upon and surrounds the anterior interosseous branch of the median and measures 2 inches by 1 inch.

At the same level can be seen a small tumor of about the size of a lemon-seed upon the radial nerve at the point of division. Just half an inch above this small tumor is another, ¾ by ½ inch, upon the musculo-cutaneous nerve, and one inch and a half above this another tumor about the size of a lemon-seed can be seen upon the same nerve. There is no change in the size of the nerve between these tumors. On the anterior interosseous nerve, above the tumor already described, exist two other tumors, both of which are ovoid in shape and are separated by a small interval (¼ to ½ an inch) from one another and from the first tumor.

The median nerve along the forearm is very irregular, varicose, but presenting no great enlargement until it arrives at the bend of the elbow, where at its point of division is a spindle-shaped swelling about one inch in length and half an inch in diameter, surrounding the whole nerve, from the lower point of which is given off the anterior interosseous nerve. The nerve from this point to its place of division by the amputation is slightly enlarged, but not markedly so. Just above the elbow, over the internal condyle of the humerus, is a larger tumor, 2 by 1½ inches, situated upon the ulnar nerve. It is ovoid in shape, smooth, and not lobulated. It surrounds the whole nerve, which passes through the tumor at its inferior portion. The ulnar, internal-cutaneous, musculo-spiral, and musculo-cutaneous nerves above the elbow are not enlarged nor varicose. The median nerve alone seems altered above the elbow.

Microscopical Examination.—The methods of staining used in the examination of these tumors were osmic acid, alum-carmine, borax-carmine, saffranin, picrocarmine, and Weigert's hæmatoxylin, and the methods of hardening the preparations were with alcohol, osmic acid (Fleming's solution), and Müller's fluid.

From the tumor of the wrist, involving the lower end of the radius, sections were taken from the proximal border, close to the tumor connected with the anterior interosseous nerve, from its radial border, and from its posterior surface. It was composed of small and large round cells, with spindle cells, and a few multinuclear cells. These were not evenly distributed throughout the sections, since many sections showed only an aggregation of round cells, with but little protoplasm inclosing a rounded or slightly oval vesicular nucleus. In some of these sections a few bundles of spindle cells were found within the masses of round cells, and for the most part these bundles were composed of three or four cells, lying parallel to one another. In other sections the spindle cells formed the greater portion of the field, and were arranged in large bundles, passing in all directions, as shown by their difference in shape when cut crosswise, lengthwise, or slantwise. The protoplasm of these spindle cells is small in amount, and so much so that it is not seen about the nucleus; the cell processes seem to grow out of the nucleus. The intercellular substance is very scanty; finely fibrillary in all sections examined. The blood-vessels were thin-walled, but quite distinguishable, or they were merely channels between the cells composing the tumor. Sections involving the lower end of the radius showed that it was in greater part replaced by round cells, having the same characteristics as in other sections. The medullary and Haversian canals were filled with the same. In certain sections large areas within the bone were filled with round cells. These irregular spaces could be traced from the medullary cavity to the periosteum covering the radius, beneath which the same round cells were formed. The periosteum itself was filled with round and spindle cells, and in parts completely replaced by them. The muscle beyond, the pronator quadratus, a part of which was still present, showed the same infiltration of round cells between the fibers. In sections from the proximal portion of the tumor were seen well-stained primitive nerve-fibers, surrounded by spindle cells, which so closely inclosed the sheath of Schwann as to render any distinction impossible. The axis-cylinder stained deeply, and the myeline substance, though wanting in places and irregular in coutour, stained well. These primitive nerve-fibers were cut transversely, obliquely, or lengthwise, and were either single or in groups of two, three, or four, separated from one another, and surrounded by spindle cells. Other bundles of spindle cells, passing through the sections, showed no nerve-fibers within them. It is possible that such represented a degenerated nerve-fiber, or an obliterated artery. The edge of the tumor showed many spindle cells, arranged in irregular bundles, and often intersected by advancing areas composed of round cells, in which were found, here and there, large multinuclear cells, such as one frequently sees in rapidly growing sarcomata.

The distal tumor upon the anterior interosseous branch of the median nerve was so cut as to have in the sections not only a portion of the nerve, but the tumor itself.

The sections made were both longitudinal and transverse. The tumor itself was made up of large spindle cells with very little protoplasm, large oval nuclei, and a very scanty intercellular substance. The medullated nerve-fibers occupy only a small portion of the transverse diameter of the tumor, the greater portion being entirely without nerve-fibers, and composed of spindle cells in bundles running in all directions.

In those sections made near the entering nerve the bundles are already separated from one another by the spindle cells situated for the most part outside the perineurium of most of the nerve-bundles, but involving it in some of them. The nerve-fibers in the last-named bundles are in part separated from one another by a tumor growth within the perineurium. In sections nearer the center of the tumor many of the bundles are separated into their primitive fibers, which are each surrounded by an infiltration of spindle cells having the position of the endoneurium. In sections still nearer the distal end of the tumor the nerve-bundles remain divided into their primitive fibers, which form a very intricate plexus within the tumor. The spindle cells surrounding the primitive fibers are so closely arranged that it is almost impossible to make any distinction between them and the nuclei of the sheath of Schwann. In all sections the primitive nerve-fibers are cut in all directions, and the plexus thus formed is so intricate that it is impossible to follow them with any certainty from section to section. Although sections made longitudinally embraced nearly the whole tumor, no aggregation of the nerve-fibers into bundles could be found passing out of the distal end of the tumor. No changes were found in the nerve-fibers themselves. There was no hyaline degeneration, as described by Schuster in his case of multiple myxofibromata of the nerves of the forearm, and by Krause (Case II) on the sciatic nerve. In none of these sections could any very fine axis-cylinders without myeline substance, or with a narrow and interrupted myeline substance, as characteristic of nerve atrophy, be found (Kriege). The axis-cylinders in all sections stained deeply, and the myeline substance seemed to be normal, both in reaction and in appearance. The second tumor upon the anterior interosseous branch of the median nerve was in every particular similar to the first, except that the tumor tissue was situated more to the side of the nerve than inclosing it. A large portion of the nerve passes through the tumor without being divided into its primitive bundles and fibers. In this tumor one sees a few nerve-fibers, which on cross-section are larger than normal and irregular in outline, in which the nuclei of the axis-cylinder stains as well as the axis-cylinder itself. This staining is somewhat lighter than usual with carmine. There is no evidence of a normal myeline substance about the nerves; no proper reaction to osmic acid and Weigert's hæmatoxylin. Such a condition is explained by Krause and others in this way: that the myeline substance has disappeared, and the axis-cylinder is irregularly swollen and occupies the whole transverse section of the primitive nerve-fibers.

The sections of the anterior interosseous nerve were taken between the proximal tumor and the median nerve itself. This, which appeared as a nodular enlargement of the nerve, showed upon cross-sections that the cellular growth for the most part lay within the epineurium separating the secondary bundles. Although the nerve-fibers in many places are thus invaded by the spindle cells, still the greater part of the nerve remains uninjured by them, so that a large portion of the nodular growths does not contain nerve-fibers. In those sections in which the cells are situated between the primitive bundles and fibers they are spindle and irregular shaped cells, with, in most sections, an abundant, finely fibrillary intercellular substance. These cells so closely surround the primitive fibers that it is often impossible to distinguish them from the nuclei of the sheath of Schwann. In no section does one find the axis-cylinder swollen or atrophied, nor any change in reaction to the Weigert's hæmatoxylon and carmine.

The tumors on the fourth and fifth branches of the median nerve are grayish-red in color and show to the naked eye several small, irregular red points (hæmorrhages) and a few small cavities filled with a serous fluid.

The tumor is composed of spindle cells with a scanty and homogeneous intercellular substance. The small cavities have no distinct lining, and seem to be due to cell-degeneration rather than to be lymph spaces or the result of hæmorrhages. There exists about some of these cavities hæmorrhages into the tumor, but they are by no means common. The digital nerves enter these tumors, but only in small part. They pass within the tumor for the most part without dividing into their primitive fibers, and do not form any marked plexus of primitive fibers within it, so that at the distal portion of the tumors the nerve, though separated in part into its primitive fibers, is readily recognized for the most part as entire. The growths upon the musculo-cutaneous, internal cutaneous, short saphenous, and circumflex nerves consist of spindle cells with an abundant and finely fibrillary intercellular substance in which the nerve is only slightly separated into its primitive fibers, the major portion passing through without involvement. There was no evidence of any changes in the nerve—neither an atrophy nor hyaline degeneration.

The ulnar tumor, together with a portion of the nerve, was examined. The nerve was found normal at its proximal end, there being no cellular growth within the perineurium and the nerve-fibers were not altered. At its entrance into the tumor the nerve-bundles and fibers were pressed aside by the intervening cells and separated suddenly from one another.

The bundles in greater part are separated into their primitive fibers, which are surrounded by the tumor mass and form so intricate a plexus that it is difficult to isolate them from one another or to follow any one primitive fiber for any distance with certainty. On cross-section, the same picture is seen. The greater portion of the nerve passes into the plexus, and the tumor mass, though lying mostly to one side of the nerve, still incloses it completely. No portions of the nerve pass into the tumor without dividing into its primitive bundles.

The tumor tissue passes between the nerve-fibers, separating them from one another, which in part presents the appearance of a fibro-sarcoma. This is especially seen where the nerve-fibers are not yet completely separated, and the perineurium is still preserved. In other sections the spindle cells are much more abundant, with a very scanty intercellular substance, and this is most marked in those sections where the nerve-fibers are small in amount and already divided into their primitive fibers. In portions of this tumor the perineurium is well preserved, and within it the spindle cells are abundant, following the course of the endoneurium and separating the primitive nerve-fibers and surrounding them in sheaths composed of spindle cells. In the nerve-fibers within such sheaths no changes were found. There was no increase in size of the axis-cylinder, no destruction of the myeline substance, nor change in its reaction to osmic acid or Weigert's hæmatoxylon. Masses of spindle cells can be seen, however, in the center of which no nerve-fibers can be found. Such bands of cells, passing through the tumor and having no nerve-fiber within them, have been considered by Krause, Kriege, and Takáes as being atrophied nerve fibers in which the myeline substance first disappears and then is followed by the destruction of the axis-cylinder. The structure of the tumor is that of a spindle-celled sarcoma with little intercellular substance, though in portions the intercellular substance is abundant. This is, however, not the case in the majority of the sections examined. Blood-vessels are abundant.

The conclusions drawn from the examination of these specimens are:

1. That we have a sarcoma composed of spindle and round cells involving the lower end of the radius, pronator quadratus, a part of the first row of carpal bones, and the capsule of the joints. In this tumor well-stained nerve-fibers were found.

2. That the first tumor upon the anterior interosseous nerve was composed of spindle cells, with scanty intercellular substance, and that the nerve-fibers are separated by the cells which have involved both the perineurium and the endoneurium. No changes in the nerve-fibers could be found in this tumor.

3. Hyaline degeneration of nerve-fibers was present in the second tumor upon the interosseous nerve.

4. Examination of the nodular enlargement of the nerve itself showed that the new growth was situated in the perineurium and endoneurium of the nerve (according to Axel Key and Retzius's nomenclature), and was composed entirely of spindle cells with abundant intercellular substance. No changes existed within the nerves.

5. The tumors on the digital branches showed a few hæmorrhages and cysts filled with a clear fluid, surrounded by the spindle cells composing the new growth.

6. The tumors upon the musculo-cutaneous, internal cutaneous, circumflex, and short saphenous were spindle-celled, with abundant intercellular substance.

7. In the ulnar tumor, however, the intercellular substance varies in amount, in places being almost wanting. Some of the nerve-fibers were atrophied completely in this tumor.

8. From the history and microscopic examination of this case, we have here a case of multiple neuromata existing over a period of fourteen years, during which time no severe symptoms nor marked change occurred within them, except that they increased slowly in size. One year ago they began to increase in size more rapidly and to be painful to pressure. Six months ago the tumor at the wrist grew rapidly.

9. That the structure of the tumors varies between that of a spindle and round-celled sarcoma at the wrist and the fibroma and fibro-sarcoma found in the other tumors.

The occurrence of multiple neuromata of the larger nerve-trunks with other varieties of new formation, such as cutaneous neuromata, angeiomata and lymphangeiomata, elephantiasis Arabum and lymphangeiectasis, has been observed and described frequently by writers. The occurrence, however, of such multiple neuromata with tumors of a malignant type, occurring either as a cellular transformation of a previously existing benign tumor of a nerve, or as a malignant tumor primarily of a nerve, with secondary multiple neuromata, with or without metastases in the internal organs, has been of late the study principally of Courvoisier, Krause, and Westphalen, in whose articles we find a collection of thirty cases of malignant tumors. Of these, four cases were characterized by the presence of multiple neuromata existing before the malignant growth was noticed.

1. Westphalen's multiple neuromata, involving the larger nerve-trunks, the nerves to the skin and muscles with sarcomatous transformation in one neuroma, and metastases in the lungs and dura mater. 2. Hitchcock's multiple neuromata, with sarcoma of the ulnar nerve. 3. De Morgan's multiple and plexiform neuromata of the musculo-spiral of the forearm, with sarcoma of the musculo-spiral. 4. Modzejewski's multiple congenital fibromata mollusca, with malignant sarcoma of a nerve in the clavicular region (?). Of the remaining cases, we have eight which are characterized by local recurrences after operation and fifteen in which no such recurrence took place, of which the history informs us. Three cases were characterized by metastasis in the internal organs. 1. Moutard Martin's, in which, after the extirpation of a malignant tumor of the median nerve, a similar tumor in the brain was found. 2. O. Weber's, in which, after repeated extirpation of a malignant tumor of the peroneal nerve which had involved the muscles, bones, and skin, similar tumors were found in the lungs and upon the intercostal nerves. 3. Westphalen's multiple fibromata,

cutaneous and peripheral nerves, phrenic, vagus, and sympathetic, with sarcoma of the sciatic nerve and metastases in the lungs and dura mater.

The author has taken the liberty of presenting this case to the society, not only on account of its rarity, but also because it explains a mode of recurrence in sarcoma to which it appears to him surgeons are more or less inattentive, as well as giving an explanation for the want of motor and sensory symptoms in that so little evidence of degeneration or dissolution of the myeline or axis-cylinder of the nerves was present.

There is at present no return in the stump nor enlargement in the brachial plexus. No new tumors in other portions of the body have been discovered.

I wish to express to the society my thanks to Dr. W. G. Hoyt, of this city, to whom I am indebted for this specimen.

ON THE USE OF LIGATURES ON THE LIMBS DURING SURGICAL OPERATIONS.

By L. M. SWEETNAM, M. D.,
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In a recent issue of your valued Journal there appeared a very interesting and instructive paper upon "The Effective, Rapid, and Safe Induction of General Anæsthesia," by Dr. J. Leonard Corning—especially interesting to me because I had used the method referred to in my own practice for several years; but first and most extensively I had seen it employed by Dr. W. T. Aikins, a surgeon of Toronto, Canada, who for some eight years has made it a rule, before commencing upon any formidable operation, to have placed upon the patient's limbs—arms as well as legs—close to the trunk, rubber tourniquets—usually large rubber tubing—just tight enough to obstruct the venous circulation, without interfering with the circulation in the artery, and, as far as I know, the idea originated with him.*

Dr. Corning resorts to the use of these tourniquets for the purpose of securing rapid anæsthesia. Dr. Aikins's object was to control hæmorrhage—to save blood—but he very soon discovered that patients came under the influence of the anæsthetic with remarkable rapidity, that the quantity of ether or chloroform used was unusually small, that consciousness returned with surprising quickness, and that the after-effects were less distressing and much less persistent than is usual under ordinary circumstances.

Dr. Corning says: "To thoroughly appreciate the principle involved, it is necessary to bear in mind that, when we place the ligature about the thighs, so as to control the circulation in both veins and arteries, we enormously cut down the amount of blood actively circulating." We think it better not to make the ligatures so tight as Dr. Corning does, and for this reason, if the constriction is sufficient to obstruct the circulation in the veins only, we, besides cutting off from the active circulation the amount of blood normally found in the limbs, draw off a large quantity from the head and trunk, lowering very distinctly the pressure in these parts. This is secured by the dilatation of the veins under the continued pressure of the arterial stream.

During the past few years, even in the United States, men of high professional standing have ventured to suggest that if reliable statistics were procurable, enabling us to place beside the list of deaths honestly attributable to the use of chloroform—and this, from the suddenness with which death takes place, is prepared with comparative ease and accuracy—that of the deaths as honestly ascribed to the use of ether, including those of persons who linger on for say, from four to fourteen days and die eventually of kidney or lung complications, the popularity of chloroform as an anæsthetic would be very much increased; but, be that as it may, it is admitted on all sides that the use of ether as an anæsthetic in the presence of extensive nephritis or bronchitis is attended with considerable risk to the patient. Now, if in these cases the medical attendant, in spite of these complications, decides to use ether, the application of these ligatures, by lessening the quantity of ether used and hastening its excretion, directly decreases the risk incurred.

A few days ago I was invited by Dr. T. A. Emmet to witness the removal of a large ovarian cyst containing upward of forty pounds of fluid from a woman of sixty-three or sixty-four; she was considerably reduced in strength and weight, and suffered from a ventral hernia with a history of peritonitis, so that the case was not a very promising one. At the suggestion of Dr. Bache McE. Emmet, and with the consent of the operator, Dr. T. A. Emmet, I applied the ligatures; she took the ether nicely, and came under its influence promptly. The cyst was found to be firmly adherent from the umbilicus to the region of the spleen; separation was effected by the use of the sponge, after the method of Dr. Skene Keith. The entire operation occupied rather more than an hour, and the total amount of hæmorrhage would, I am sure, be more than covered by two fluidounces. Dr. Emmet took me to see the patient a week later. Her temperature and pulse were practically normal; in Dr. Emmet's opinion, the use of the ligatures had contributed very largely to her recovery.

The advantages offered are:

1. But little time is lost in securing complete anæsthesia, and but little in waiting for returning consciousness before leaving the patient, the operation being completed.
2. If the bands are applied ten or twelve minutes before the first incision is made, the operation will be a comparatively bloodless one, and the surgeon works more rapidly and more comfortably than he would if the hæmorrhage were more severe.
3. Saving of blood to the patient.
4. If collapse appears to threaten the life of the patient, the removal of one or more of the ligatures can be relied upon to bring about a prompt reaction.
5. There is less vomiting and distress after the use of the anæsthetic.
6. The small amount of ether or chloroform used, from an economical standpoint.

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* I have recently learned that the method was made use of, many years ago, by the late Dr. A. C. Post, of New York, and perhaps by others.

7. Fewer ligatures and compression forceps are required to control bleeding.

8. Less embarrassment of lungs and kidneys, and lessened risk of serious injury to these organs if diseased.

Precautions to be observed:

1. In cases where there is a history of purpura it is well to exercise care both as to the amount and as to the duration of the constriction.

2. Where there are marked varicosities of the limbs, these should be supported by rubber or flannel bandages.

3. Where there is no contra-indication, inasmuch as the amount of blood supplied to the heart and cerebro-spinal system is materially lessened, the effect may be somewhat depressing, and for that reason ether would appear to be the better anæsthetic.

I have frequently used chloroform with the ligatures, and so far without noting any unpleasant results; but, whichever anæsthetic is used, the head should lie low, and, if alarming symptoms should develop, I should draw the patient up so that the head would hang over the end of the table, and at the same time loosen several of the ligatures.

4. If the wound, still open, is watched for five or ten minutes after the removal of the ligatures, its color will be seen to deepen very distinctly from the increased quantity of blood flowing to the part. Now clots, which were sufficient to seal effectually the small vessels while the ligatures were in position, may give way under the increased pressure; in one case, thirty minutes after the removal of a breast, violent hæmorrhage set in, necessitating the reopening of the entire wound to secure the bleeding points. If, however, the bands are removed as soon as the last incision is made, there will be but little risk of any mishap of this kind after the sutures have been introduced and the wound has been securely closed.

5. The constriction may with perfect safety be kept up for two hours, but it is well to keep the limbs wrapped in blankets and thus prevent any serious loss of heat.

A CASE OF SUPRAPUBIC CYSTOTOMY.*

By JAMES BUCKER LUCKIE, M. D.,

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Some time in May last my friend Dr. E. H. Sholl sent a man to my office to be examined for a supposed stone in the bladder. Upon introducing a sound, I easily detected the presence of a large calculus.

In examining into the previous history of the man I learned that, a few years before, he had contracted a gonorrhœa, which had left him badly strictured. He informed me that he had been treated for the stricture, but that the operation had proved unsuccessful. There was a false passage, which rendered it extremely difficult to introduce a sound or catheter. The man himself, however, had but little difficulty in passing one, as long practice had taught him how to avoid the false passage. There had also been at one time an infiltration of urine into the scrotum, which had produced considerable sloughing. There was also left a small fistulous opening in the perinæum.

The man insisted that an operation for his relief should be performed at as early a day as possible, as his sufferings were beginning to be unbearable.

I at once put him on treatment to build up his general health.

On the 2d day of July, assisted by Dr. Sholl, Dr. Copeland, and my son, I performed suprapubic cystotomy, taking from his bladder a calculus weighing four hundred and eighty-one grains. Every precaution in our power was taken to make the operation aseptic, and we were equally as particular in the subsequent dressings. The bladder was carefully washed out with boric acid and warm water morning and evening, and the dressings changed at the same time, until the opening in the bladder was healed.

On the tenth day there was a sudden rise of temperature, and we found that a considerable amount of pus had burrowed beneath the tissues. This was pressed out and the track carefully washed out with a bichloride solution, and the trouble ceased. At no time after the operation did the temperature reach higher than 102° F. In three weeks after the operation the man was able to be out, and in about four more weeks was able to go to his work. He could have done so one week sooner, but was seized with "chills and fever."

At this writing he is stout and strong, and able to do the hard labor in which he is engaged at the rolling-mill. The fistulous opening in the perinæum has healed; he has no trouble in voiding his urine, and, in fact, considers himself sound and well.

My object in reporting this case is to urge the suprapubic operation on the profession wherever an operation has to be done. No important blood-vessels are endangered, and no harm done the prostate gland, as is sometimes the case in the other operations. The favorable results of many trials made within the past few years have proved that, where proper antiseptic precautions have been taken, cystotomies terminate favorably, even where the peritonæum is divided. In suprapubic cystotomy nothing but awkwardness could cause the peritonæum to be wounded, as it only covers the bladder at its upper portion, and is easily shoved out of the way of the operator by the index-finger of the left hand.

Nephritis in Scarlatina.—According to the "Lancet," "Dr. Haze states, in a report on the scarlet-fever cases treated in the Elizabeth Children's Hospital in St. Petersburg during last year, that, out of 145 such patients, 19, or 13·1 per cent., suffered from nephritis. This is a rather smaller proportion than the average of several years, tending to show some diminution in the number of kidney affections consequent on scarlatina, for during the years 1871 to 1886, out of 875 scarlet-fever patients, 135, or 15·7 per cent., were found to be affected with nephritis."

Antifebrin as a Disinfectant.—According to the "Lancet," "Dr. S. A. van Leer has been prosecuting a number of researches in the Hygienic Laboratory at Groningen on the antiseptic properties of antifebrin (acetanilide). When added to milk, so as to saturate it, acetanilide prevents it from turning sour; similarly, albumin can be kept from becoming putrid. It does not, however, seem a suitable substance for dressing wounds, as it does not easily dissolve or become moist, and irritates the surface of wounds. Dr. van Leer examined the effects of solutions of antifebrin of various strengths on several kinds of bacilli, and found that the development of many of them was not by this means prevented; consequently, he does not think that the suggestion of Leube to employ antifebrin for surgical dressings is likely to prove of any advantage."

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* Read before the Alabama Surgical and Gynæcological Association, October 13, 1887. Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

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REDRESSEMENT FORCÉ IN GYNÆCOLOGY.

A FEW years ago Dr. Ehrich, of Baltimore, gave the American profession an account of the results that he had met with in the employment of forcible reduction of displacements of the uterus with fixation. That author advocated the practice in certain cases with admirable frankness and directness of statement, but we are not aware that it has found any considerable number of followers in this country. It seems, however, that a well-known and highly esteemed German gynæcologist, Dr. B. S. Schultze, of Jena, has followed substantially the same method for a long time. In a recent number of the "Zeitschrift für Geburtshülfe und Gynäkologie," Dr. Schultze gives the details of the procedures employed by him, and expounds the considerations which lead him to advocate them.

In that article we note, to begin with, two propositions to which, we are certain, there is not such general agreement as the author seems to imagine. One of them is that he has settled the question of the normal posture of the uterus, having established the fact that its body is parallel or nearly parallel with the anterior vaginal wall. The other is that most gynæcologists have adopted his method of replacing the retroflexed uterus. We feel sure that there are many gynæcologists of distinction who have never heard of his method, and who would consider it generally inappropriate. More reasonable is his supposition that the bands of adhesion and the accumulations of exudate which attach the uterus to the parietal peritonæum, or form a medium in which it is imbedded, are secondary to a retroflexion which may have existed for some length of time. What the exciting cause of the retroflexion may have been is immaterial; the author believes that in most cases the obstruction is the result of an intercurrent peritonitis. The same line of reasoning applies in the case of the ovary. We are also prepared to accept his statement that chronic pelvic peritonitis seldom occurs without involving the subperitoneal cellular tissue. When, however, he announces that his method of dealing with the adventitious tissue is the ideal one—at least, that he has been practicing it with satisfactory results since 1879—the question suggests itself, whether it is not ideal in the sense of being impracticable.

He places the anæsthetized patient in the lithotomy posture, and empties the rectum with an enema of warm water, leaving water enough in the rectum to distend it. The index and middle fingers of one hand (presumably the left) are then introduced into the rectum, and the anterior abdominal wall is depressed with the fingers of the other hand until the fingers of one hand can be felt with those of the other. The surface and the surroundings of the retroflexed organ are then carefully explored, the situation of adhesions is definitely ascertained, and by the exercise of sufficient pressure they are divided, usually at the uterine end. If the uterus is retroverted and attached to the rectum, the middle finger of the external hand is used to strip away the adhesions and press the organ forward, while it is steadied by the fingers within the rectum. The same process is employed for adhesions of the ovaries, care being taken to avoid using too much force, and also to direct the pressure against the new tissue and not upon the ovaries. In cases in which the uterus is retroflexed and too firmly fixed to be replaced in the manner described, the author would straighten it by means of an intra-uterine stem and a vaginal pessary, or he would first dilate the organ, then introduce the forefinger (presumably of the left hand) to the fundus, and, with the assistance of the other hand, which again depresses the anterior abdominal wall, straighten and replace the organ.

Admitting that sensibility is abolished by means of the anæsthetic, and that the accompanying relaxation is all that could be desired, how few cases there are, comparatively speaking, in which the mechanical obstacle interposed by the muscles and fat of the anterior abdominal wall can be sufficiently overcome to admit of that delicacy of manipulation which is necessary to define the bands and cords of tissue that hold the uterus in its abnormal posture! Still more difficult is it to conceive of such an application of force as would tear these bands away, when we realize the great mechanical disadvantage under which it must be exerted. If the force is sufficient to divide the adhesions, it seems as if it must, in some cases at least, lacerate the peritoneal covering of the uterus or ovaries, if not the organs themselves, and thus lead to a renewal of the inflammation that originally resulted in the formation of the adhesions. The author tells us that no such occurrence has ever attended an operation of his, also that there has been no considerable hæmorrhage or shock. Nevertheless, we are constrained to face such possibilities. The author's unique success may be due to his special skill and great experience in the procedures by which, as he tells us, he has replaced the uterus hundreds of times, or to some unusually favorable conditions on the part of the patients. He candidly admits that most gynæcologists have not been favorable to his method, by reason, he thinks, of their having misunderstood it, and he cites Hegar, Winckel, and Schroeder as its opponents—certainly, no mean antagonists. For all this, it is possible that the plan is desirable and practicable in certain cases of tubal or ovarian disease in which there may be reasons for abstaining from laparotomy.

SIMPLE DUODENAL ULCER.

THIS condition has not received in medical books the attention it deserves; but M. Bucquoy, an eminent clinician of the Hôtel Dieu, has lately written a very full article on the subject, a concise review of which appears in the "Progrès médical." Simple ulcer of the duodenum has many points of resemblance to simple ulcer of the stomach, and, like the latter, may remain latent for a long time and then suddenly manifest itself by an alarming hæmorrhage or by perforation with a consequent violent peritonitis. There may be, and there usually is, hæmatemesis as well as intestinal hæmorrhage. The hæmorrhage from the bowel is sudden and profuse, usually coming on shortly after a meal and being attended with colicky pains. In some instances death has been known to follow a single hæmorrhage, but in the majority of cases there are several losses of blood, by which the patient is rendered anæmic in the extreme. Pain has not the same symptomatic value in duodenal as in gastric ulcer; it is far from being constant, and, when present, is very variable in its seat, duration, and intensity. It is most frequently felt some time after a meal, usually at the end of gastric digestion, and has its seat in the right hypochondrium, frequently radiating to the epigastrium and over the whole abdomen. M. Bucquoy has never observed the dorsal and xiphoid points of pain that characterize gastric ulcer. He has taken particular note of the time when the pain appeared, and has found it to be usually from two to three hours after the ingestion of food. No other disturbances of digestion, either gastric or intestinal, were present. The course of the affection is slow and irregular as a rule, and is characterized by exacerbations and remissions of variable duration. It usually terminates by perforation and by the acute peritonitis which ensues. The author does not, like most other observers, take a pessimistic view of the prognosis. He believes in the curability of duodenal ulcer; of five cases under his personal care, only one ended fatally.

The points of differential diagnosis between duodenal and gastric ulcer are the predominance of intestinal hæmorrhage, the absence of disturbances of digestion, and the variability of the pain in the former. Moreover, duodenal ulcer is most frequently met with in men, while gastric ulcer, as is well known, occurs chiefly in women, notably in chlorotic young girls. The author concludes his article with the following proposition: When a man is suddenly seized with hæmorrhage from the bowels, when there are no other disturbances than extreme anæmia, when these hæmorrhages recur after intervals of apparent good health of shorter or longer duration, and, finally, when the functions of the stomach are rapidly regained after a severe hæmorrhage, there is a strong presumption, amounting almost to a certainty, of simple ulcer of the duodenum. The treatment is not unlike that of gastric ulcer, only there need not be the same stringency with regard to the diet as in that affection, owing to the circumstance that the mucous membrane of the stomach is intact.

MINOR PARAGRAPHS.

THE MARINE-HOSPITAL SERVICE.

The "Annual Report of the Supervising Surgeon-General," for the year ending June 30, 1887, has just been issued. It is a brochure of rather more than three hundred pages, giving, besides the usual statistical matter, a considerable number of scientific contributions by members of the corps. These are largely of a clinical character, and they reflect great credit upon their authors. It appears that the bureau has hospitals of its own in Baltimore, Boston, Cairo, Chicago, Cincinnati, Detroit, Key West, Louisville, Memphis, Mobile, New Orleans, Portland, Port Townsend, St. Louis, San Francisco, Vineyard Haven, and Wilmington, but none that can be called its own in or near New York. This is probably because, in the estimation of Congress, New York is a place of too little maritime importance. The Secretary of the Treasury, however, seems not to be of that opinion, for he has lately sent a letter to the speaker of the House of Representatives, urging certain reasons why the Government should own a marine hospital at this port. To be consistent, Congress ought either to establish one here or else discontinue the custom-house.

LEPROSY AND BOARDS OF HEALTH.

A fitting rebuke has been given to the Philadelphia Board of Health for having fined Dr. Arthur Van Harlingen for failure to report two cases of leprosy. The fine imposed was $100, and several of the best-known physicians of Philadelphia have sent him that sum, subscribed among themselves, with a letter in which they say that, although they do not wish to commit themselves as a body on the question of the contagiousness of leprosy, they regard the board's action in the matter as unjust both to Dr. Vau Harlingen and to the patients. They state that during the past twenty years lepers in various numbers have been treated in different European and American cities without a known instance in which the disease was thus communicated. Perhaps the board would like to fine somebody for not reporting a case of consumption.

THE DEFECTS OF STATISTICS.

One of the more prominent shortcomings of statistics founded on returns made to sanitary bodies is, as we have often stated, the strikingly erroneous disparity often shown between the numbers of births and those of deaths reported. In an address lately given by Dr. Barker, which we printed in our last issue, an instance was cited in which, for a certain period, the deaths in Liverpool actually exceeded the reported births. This, of course, does not express the true state of the case, as an esteemed correspondent has pointed out, but Dr. Barker was probably correct in his citation, and, in our opinion, he performed incidentally a public service by laying before the profession this self-evident example of the fallaciousness of such statistics.

THE PROPOSED NEW PARKS.

We are glad to observe tangible signs of something being done to establish the series of small parks proposed for the more overcrowded parts of the town. The Board of Aldermen has unanimously passed a resolution appropriating the block bounded by Baxter, Mulberry, Park, and Bayard Streets for purposes of a public park to be known as "Mulberry Park." There are few quarters in which a gap among the tenement-houses is more urgently needed. We trust that the other proposed parks will speedily be established.

THE HOSPITAL SATURDAY AND SUNDAY ASSOCIATION.

The association's executive committee calls attention to the approaching collection in the churches and synagogues and among the trades and professions. Before the recent withdrawal of the Presbyterian Hospital, the association embraced twenty-eight hospitals, among which each year's general collection has been divided on the basis of the free work done by them during the preceding year. As these hospitals cover every department of medical and surgical practice, it will be seen that the association is working in behalf of no one class, but the whole people, every individual of whom has a direct interest in maintaining the most efficient service attainable in the work of the hospitals. Last year the total amount collected was $53,051.98, of which $32,784.66 came from the churches and synagogues, and $20,267.32 from the trades and professions, exchanges, various benevolent orders, and miscellaneous sources. During the past year the associated hospitals did their work at an expense of $740,722.27, of which $542,218.91 had to be raised by contribution. Since the first collection was made, in 1879, the amounts raised annually by the association have grown to double the first one, affording a convincing and gratifying proof of the public favor with which the movement has been met. We trust that the forthcoming collection will show a further increase. The withdrawal of the Presbyterian Hospital ought not to interfere with such an increase by giving the impression of discord among the constituent bodies; as we understand the matter, that institution has reasons of its own (which we will not now discuss) for preferring to try its facilities for independent collection, rather than forego the full participation in the collection as an offset to its receipts from designated contributions, in accordance with a new by-law adopted by the association for the purpose of emphasizing its preference for undesignated gifts. In our opinion, the association's position on this point is altogether commendable, and we doubt not that it will commend itself to the great majority of the public.

THE UNIVERSITY OF NEBRASKA.

The director of the patho-biological laboratory of the university, Dr. Frank S. Billings, announces that, although established entirely for investigation, the laboratory is to be made as useful as possible to the country. Hence he offers its advantages for purposes of instruction to boards of health, live-stock commissions, and educational institutions—advantages which, he thinks, are better than any others of the sort in the country. Only two pupils can be accommodated at a time, and they must be medical or veterinary graduates who have the indorsement of some such body as those mentioned. The laboratory is situated in Lincoln.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 13, 1887:

DISEASES.	Week ending Dec. 6.		Week ending Dec. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	5	16	6
Scarlet fever	127	17	127	23
Cerebro-spinal meningitis	1	1	5	5
Measles	33	2	45	2
Diphtheria	193	50	185	45
Small-pox	1	0	0	0

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 6 to December 10, 1887:*

Sternberg, G. M., Major and Surgeon. Assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md. S. O. 285, A. G. O., December 8, 1887.

Cleary, P. J. A., Major and Surgeon. Assigned to duty at Fort Wingate, New Mexico. S. O. 285, A. G. O., December 8, 1887.

Anderson, C. L. G., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort McDowell, Arizona. S. O. 285, A. G. O., December 8, 1887.

Taylor, A. W., Captain and Assistant Surgeon. Assigned to duty at Fort Robinson, Nebraska. S. O. 285, A. G. O., December 8, 1887.

Appel, A. H., Captain and Assistant Surgeon. Assigned to duty at camp at Highwood, Ill., relieving Assistant Surgeon H. O. Perley. S. O. 285, A. G. O., December 8, 1887.

Perley, H. O., Captain and Assistant Surgeon, will rejoin his proper station (Fort Wayne, Michigan). S. O. 285, A. G. O., December 8, 1887.

Hoff, John Van R., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 12th proximo. S. O. 128, Department of the Missouri, November 30, 1887.

Munday, Benjamin, Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about December 15, 1887. S. O. 280, A. G. O., December 2, 1887.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending December 12, 1887:*

Gassaway, J. M., Surgeon. When relieved, to proceed to Cairo, Ill., and assume charge of the service. December 9, 1887.

Irwin, Fairfax, Surgeon. Promoted and appointed surgeon from date of oath, December 10, 1887. December 8, 1887. * To proceed to Pittsburgh, Pa.; Wheeling, W. Va.; Gallipolis, Ohio; Evansville, Ind.; Cairo, Ill.; Little Rock, Ark.; Shreveport, La.; New Orleans, La.; Rome, Ga.; Chattanooga and Nashville, Tenn., as inspector. November 12, 1887.

Guiteras, John, Passed Assistant Surgeon. When relieved, to proceed to Charleston, S. C., and assume charge of the service. December 12, 1887.

Banks, C. E., Passed Assistant Surgeon. To proceed to Portland, Maine, and assume charge of the service. December 9, 1887.

Carmichael, D. A., Passed Assistant Surgeon. When relieved, to proceed to Washington, D. C., for temporary duty in the office of the Supervising Surgeon-General. December 9, 1887.

Bevan, A. D., Passed Assistant Surgeon. Granted leave of absence for twenty days. December 7, 1887.

Glennan, A. H., Passed Assistant Surgeon. To proceed to Key West, Fla., and assume charge of the service. December 12, 1887.

Society Meetings for the Coming Week:

Monday, *December 19th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *December 20th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings: Ogdensburg, N. Y., Medical Association.

Wednesday, *December 21st:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Alleghany (quarterly), and Tompkins (semi-annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

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* Omitted from previous report.

Thursday, *December 22d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *December 23d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *December 24th:* New York Medical and Surgical Society (private).

OBITUARY NOTES.

David Dana, M. D., of Lawrence, Mass., died on Saturday, the 10th inst. He was born in Dedham, Mass., in 1825, and was graduated from Harvard Medical School in 1847. During the civil war he was surgeon of the First Massachusetts Heavy Artillery. He was a member of the Massachusetts Medical Society and of the Essex, Mass., North District Medical Society, of which he had been one of the censors. At the time of his death he was president of the medical staff of the Lawrence City Hospital.

Letters to the Editor.

PREGNANCY IN CASES OF PYOSALPINX.

70 East Fourth Street, Cincinnati, *November 29, 1887.*

To the Editor of the New York Medical Journal:

Sir: In the very suggestive article of Dr. Buckmaster's, in your issue for November 25th, occurs the following: "If pyosalpinx is as frequent as we are led to believe, one would expect to hear of many cases of death following rupture of the tubes before term, unless it is that only a small number of these subjects become pregnant."

This would lead to the inference that victims of pyosalpinx can with safety perform the functions of maternity. This inference contains a twofold error, viz., first, that women with pus in both tubes can conceive at all; and, second, that women with pus in only one tube can conceive with safety.

The idea that women with double pyosalpinx can conceive at all is based upon the same pathological misconception which gives rise to the cheap talk about "unsexing" a woman by extirpating the appendages in this class of cases. As a matter of fact, a woman in this fix is already "unsexed" by her disease, so far at least as the ability to bear children is concerned. This fact is and must be the result of pathological conditions, one or more or all of which obtain in pyosalpinx. These conditions are: (1) Occlusion of the distal ends of the tubes in consequence of adhesions of the fimbriæ; (2) obstruction of the uterine orifice of the tube from desquamative changes in the lining epithelium—conditions which prevent the migration of either sperm or germ; and (3) the presence in the tubes of the products of suppuration — a condition incompatible with the vitality of either sperm or germ.

In the case of unilateral pyosalpinx impregnation becomes dangerous because the distension of the tube incident to uterine evolution may result, indeed has resulted, in rupture internally and death. But, in the absence of this extreme catastrophe, an alternative one almost as serious is sure to occur. I allude to the distension of the uterine orifice of the tube as a result of uterine enlargement, the discharge of the purulent contents into the gravid womb, and abortion with serious complications. I am now reminded of the case of a woman with unilateral pyosalpinx who conceived twice, aborted both times in the fifth month, and was saved only by rigid antiseptic irrigations of the uterus. A year after the last abortion I extirpated the appendages of the right side, the tube being greatly distended with pus. She now has the same trouble in the remaining tube, for which I purpose operating in the near future. Of course I should have extirpated both tubes while I was at it, but I have to plead in extenuation that the case was among my earlier ones, and that it occurred before the extirpation of the remaining healthy appendages in cases of unilateral pyosalpinx became a recognized canon of practice.

In conclusion, I have to beg that Dr. Buckmaster revise his teachings in the foregoing particulars, that he cease to advise the dangerous expedient of impregnation in cases of single pyosalpinx, and that where both tubes are involved he utterly abandon hope of fecundation, even with the ingenious device of the spermatic squirt-gun.

Charles A. L. Reed.

ACETANILIDE IN MALARIAL FEVER.

Mt. Summit, Ind., *November 22, 1887.*

To the Editor of the New York Medical Journal:

Sir: So much has been published recently in regard to the use of acetanilide that any communication touching its use as an antipyretic may seem superfluous; but it was of so much importance in a case recently under my observation that I report it. A boy, twelve years old, of slight build and good history, had malarial fever. The first day the temperature reached 105° F., and during the remission it was 103·5°. All means of controlling the fever failed. Four times in twenty-four hours the temperature rose to 106° or 106·75° for twenty-eight days. On the fourth day I stopped *all* medication, and directed from four to six grains of acetanilide to be given at the height of the exacerbation. The points of interest are: 1. The administration in twenty-four hours of from sixteen to twenty-four grains of acetanilide for twenty-four consecutive days. 2. The fact that the course of the fever was not shortened by the drug.

F. G. Jackson.

SALOL IN TYPHOID FEVER.

Howell, Mich., *December 12, 1887.*

To the Editor of the New York Medical Journal:

Sir: I notice in the columns of your Journal, under date of December 1, 1887, a short letter from Dr. Barnsfather, of Dayton, Ky., in which he speaks very highly of salol (salicylate of phenol) in the treatment of fever. I am glad to see this, because I think in this agent we have a remedy of great value in the treatment of fevers. I am about to offer "A Clinical Study of Salol as an Antipyretic," and am therefore pleased to know that there are other investigators along this same line.

John A. Wessinger.

The Time of Commencement of Menstruation.—According to the "Lancet," "Dr. Sullies finds, from inquiries made from three thousand pregnant women from the neighborhood of Königsberg, that menstruation commenced at the mean age of sixteen. The taller and the weaker girls menstruated earlier than the shorter and the stronger girls, and the brunettes earlier than the blondes. The earliest of all were the tall, weakly blondes; the latest, the short brunettes of medium strength. In eighty-three per cent. the function was performed regularly at the first."

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of November 23, 1887.

The President, Dr. LEWIS A. STIMSON, in the Chair.

Fibro-sarcoma of the Median Nerve; Excision.—Dr. McBURNEY presented a patient with the following history: J. F., aged twenty-seven, a clerk, was admitted into St. Luke's Hospital on February 8, 1886. His father had died of phthisis, his sister of an abdominal tumor. There was no cardiac, renal, or syphilitic history. Six years before he had noted a lump on the inner side of the right arm, which had given rise to no pain until a month before his admission. A fusiform tumor was found, situated on the inner aspect of the right arm, at about its middle third, between the biceps and triceps muscles; it was not attached to the latter, but seemed to have some deeper attachment, the vessels apparently lying behind it. Pressure upon the tumor caused pain in the hand and forearm, but not in the tumor itself. The diagnosis of probable fibrous or fibro-cellular growth was made.

On February 16th the speaker removed the tumor, with the assistance of Dr. Peters. The growth, of a fusiform shape and as large as a pear, was reached by a longitudinal incision. It lay immediately beneath the deep fascia, after incising which it was at once appreciated that the tumor was one of the median nerve. The fibers of this nerve were spread in the form of a sheath over and around the growth on all sides, very much like the network over a balloon. The nerve-sheath was incised longitudinally without dividing any nerve-bundles, and the tumor was carefully enucleated. A few bundles of considerable size ran through the substance of the tumor. These were necessarily divided; two of them were afterward united by catgut suture. Three smaller tumors of an appearance similar to that of the large one were imbedded in the median nerve just above the principal mass. These also were enucleated. Two drainage-tubes were introduced, and the wound was closed with catgut sutures, a dressing of iodoform and bichloride gauze being applied.

The patient had some neuralgic pains in the hand and arm, corresponding to the distribution of the median nerve, and a few trophic disturbances, but sensation was not impaired. Nearly two years had elapsed since the operation, and the patient had complete use of the arm, the only remaining symptom being a slight tingling sensation in the right index-finger. Under the cicatrix in the upper arm the median nerve could be felt to be somewhat thickened, but not more so than it had been a month after the operation. The tumor had been examined by the pathologist, Dr. Ferguson, whose report had been as follows: "The mass is oval in shape, measuring two and a half by one and a half inches, and is surrounded by a very delicate fibrous capsule. It is composed of fibrous tissue and spindle cells, the latter being very abundant. Numerous vascular channels are seen in every section, being limited to the tissue of the tumor; there is no special arrangement of the tissue suggesting a vessel-wall. Diagnosis, fibro-sarcoma."

Dr. C. K. BRIDDON said that in 1859, by invitation of the late Professor Willard Parker, he had operated at his clinic, at the College of Physicians and Surgeons, for the removal of a tumor involving the brachial portion of the right ulnar nerve, measuring three inches in its longitudinal and an inch and a half in its transverse diameter. It had been seated within the neurilemma, nerve-filaments passing through and over it. It was examined microscopically by Dr. W. H. Draper, who pronounced it to be a fibro-sarcoma. A year later the cicatrix was occupied by a large fungous mass, which bled freely when handled; this was treated by amputation at the shoulder joint, the disease returning in the stump of the nerves. The patient was admitted into the New York Hospital, where Dr. Parker operated, removing only the diseased part, which was seated in the ends of the divided nerves. Recurrence again took place, when the late Dr. Gurdon Buck resected the scapula and a portion of the clavicle. Another recurrence terminated the case.

In 1875 the speaker saw a woman who had suffered severely for twenty-five years from neuralgia involving the right musculo-spiral nerve. It had commenced in the gangliform enlargement of the posterior interosseous branch, over the back of the wrist joint, and had then radiated over all the territory supplied by the nerve. In the axilla there was a tumor of about the size of a billiard-ball, situated at about the center of the space, bulging the anterior wall slightly, but the floor scarcely at all. It was removed by operation, and was examined microscopically by Professor Arnold, of the University of the City of New York, who pronounced it to be a myxoma. No recurrence had been heard of.

In reply to a question by Dr. R. Abbe, Dr. McBURNEY said that the tumor had been easily shelled out. It was too large to excise without dissecting it out, as it would have been necessary to remove fully three inches of the nerve.

Dr. R. J. HALL asked regarding the exact location of the smaller tumors.

Dr. McBURNEY replied that they were situated about half an inch higher up on the nerve, and were not connected with the larger growth. They also were removed by splitting the nerve bundles which covered them.

Ununited Fracture of the Tibia and Fibula treated by Exsection of Bone.—Dr. McBURNEY presented a patient, forty-five years of age, who in August, 1886, had sustained a severe compound fracture of the left tibia and fibula. He had been taken to one of the best hospitals, and had there been treated for some time, and dismissed with a splint still in position. The latter was finally removed, but there was only slight union between the bones. In July, 1887, the patient came under the speaker's care. He found a fracture of the left tibia and fibula about two inches and a half above the malleoli: a great range of motion existed at the seat of fracture. On July 6th he excised from both the tibia and the fibula a mass of bone, including the point of fracture, measuring over an inch in length; the line of section was directly transverse. The only union between the fragments was by a very long, tough mass of fibrous tissue. The bones were then brought close together, and the portions of tibia were firmly nailed with one steel nail, the fibula being wired with silver wire. A bone drainage-tube was inserted, and the limb was put up in plaster of Paris. The dressing was first changed at the end of two weeks, and the nail was removed; the subsequent dressings were very infrequent.

On examination, two weeks ago, firm bony union was found to exist. The patient was shown because of the good position in which the bones had united, and to illustrate the restoration of muscular power after the excision of so much bone.

Dr. HALL said that in several cases which he had had one of the greatest obstacles to union had been offered by the large amount of almost non-vascular cicatricial tissue that had formed in the soft parts around the ends of the broken bones. In one case of resection of the radius and ulna for non-union, he had been obliged to dissect out the fibrous tissue and periosteum so as to obtain a fresh vascular tissue, when union had occurred rapidly. When the ends of the bones were simply wired together, union might doubtless be prevented by cicatricial tissue around the ends of the bones preventing a sufficient blood-supply.

The President cited the case of a man who had sustained a compound fracture of the lower third of the leg several months before he came under his care. It had been wired and union had failed to take place. He squared the ends of the tibia and removed an inch and a half of the fibula to allow of coaptation. The unbroken loop of wire was found loose in the soft tissues. He believed that the fibrous band found in these cases was not entirely composed of cicatricial tissue, formed between the separated fragments, but, in part at least, was the original bone transformed by rarefaction, and he was disposed to believe that the presence of a wire suture favored this exaggeration of the rarefactive process. Whenever he had had occasion to cut down upon such a suture he had found its track notably enlarged by absorption. He therefore abstained from wiring the fragments in recent fractures, unless special indications were present, and such special indications, in his experience, were very rare.

Multiple Neuromata with Neuro-sarcoma.—Dr. Frank Hartley read the history of a case (see page 682).

In reply to a question by Dr. Briddon, the reader said that a year had elapsed since the operation and there were no evidences of recurrence.

Dr. Briddon called attention to the fact that in the first case which he had reported the first recurrence took place within a year, the others within six months, after the operation.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting of November 14, 1887.

The President, Dr. I. N. Danforth, in the chair;
Dr. W. L. Copeland, Secretary.

The Pathology of Leukæmia was the title of a paper read by Dr. M. J. Mergler. After alluding to the respective parts played by Bennett and Virchow in establishing the nature of the disease, the author said that the lesions which took place in the blood were a persistent progressive increase of the white cells, and a corresponding change in the color of the blood, the ratio of the white to the red corpuscles in some of Virchow's cases being two to three. The red corpuscles were also diminished, absolutely as well as relatively. After death colorless clots were often found in the large vessels. The spleen was increased in size and weight from increased vascularity, multiplication of cell elements, and the formation of new connective tissue. The lymphatic glands also underwent similar changes to those in the spleen. The liver was usually enlarged and occasionally nodulated. The kidneys were generally normal, but there might be an accumulation of lymph-cells along the tubules and glomeruli. E. Neumann had described certain changes which he had observed in the bone-marrow. In the central cavities of long bones and the cancellated structure of others the marrow assumed a purplish, yellowish, or grayish discoloration, and the bones might be enlarged. The same cellular elements were found by the microscope as existed in the leukæmic blood. There was also an absence of the fine vascular network of normal marrow; only the larger arterial branches remained, and their walls were infiltrated with lymph-cells. He held that the changes in the marrow were the only constant lesions of leukæmia.

Dr. H. M. Lyman said the great difficulty lay in the fact that we did not as yet fully understand how blood was formed. So far as recent researches threw any light upon the subject, the white corpuscles appeared to be formed in the lymph-glands, and the red corpuscles, not from the white corpuscles nor from the lymph corpuscles, but principally from the red marrow, certain cells of which, by a process of budding, threw out protuberances, which, becoming detached, constituted the red corpuscles. But we did not know positively how these got into the general circulation. There were several different varieties of anæmia described, the exact relation between which we did not know. There were, however, two principal classes: first, when the white corpuscles were increased relatively and absolutely; and, second, where there was no increase, relatively or absolutely, of white corpuscles, but a general diminution of all the blood elements. In some cases there was great enlargement of the organs which formed the white corpuscles, such as the lymph-glands, the spleen, etc., while in others there was no enlargement of these organs, and the condition could be determined only by an examination of the blood. The appearance of striæ (which were found to be white corpuscles) along the retinal vessels was a valuable diagnostic sign of an increase of white corpuscles in the blood. Some of the symptoms of leukæmia were produced by the diminished power of the blood to carry oxygen through the system, and hence the patient suffered from exhaustion and shortness of breath; for the same reason there was a tendency to the deposition of fat in different parts of the body, the organs underwent fatty degeneration, and the walls of the vessels, suffering the same change, permitted of frequent hæmorrhages. The primary cause of these changes in the blood was not known. They might follow malarial disease, hæmorrhages, or other depressing influences, but what peculiar conditions produced them no one could say.

Dr. J. J. M. Angear agreed in Dr. Lyman's statement that the origin of the blood was not well known, but we did know that, a person having eaten a meal, a portion of it was taken up by the lacteals, and a portion by the blood-vessels, and that if we now examined the lacteals we found nothing in the form of cells; but after the fluid had passed through the glands we began to find cells, and they increased in number as we approached the heart. Flint had said that the white corpuscles were multiplied greatly a few hours after a large meal, and diminished greatly on fasting, and this went to show that the white corpuscles must bear some relation to the red ones. We might compare a red corpuscle to a human being—it was born, had a period of infancy, youth, manhood, and old age, and finally died. Now, suppose some influence was brought to bear on these corpuscles while in their infancy, so that, instead of growing strong and reaching maturity, they became sickly; the result was white corpuscles, pus, or whatever one might choose to call them, and resulting from this sickly degeneration leukæmia, pyæmia, or kindred diseases. In reference to the formation of red corpuscles in bone-marrow, there was this in its favor: whenever there was a great drain on the system the marrow was diminished—but was it drawn on to a greater degree than the fat? and was it taken to make the red corpuscles? The first change we saw in an egg in the process of development was the appearance of blood-vessels, before the skeleton or red marrow was formed.

Dr. C. W. Earle referred to a paper by Dr. Cameron, of Montreal, bearing on the influence of leukæmia on pregnancy, in which it was said that four cases had been reported in which this disease had occurred in pregnant women, but none in which a leukæmic woman had become pregnant. In none of the cases reported had the relative proportion of the white and red corpuscles been mentioned. He then reported a case in which a woman suffering from leukæmia became pregnant, giving the relative proportion of white and red corpuscles; but, while the relative proportion of the red corpuscles was greatly diminished in the mother, that of the child was normal.

Dr. Hoadley said that 95 per cent. of the marrow was yellow fatty matter, and that in emaciation this was absorbed, but that the red marrow was unchanged. There were red corpuscles in the embryo long before there was red marrow, and it would seem that there must be some other process for their formation. He believed that the blood was the formative agent of the red corpuscles, and inclined to Dr. Angear's view of their development from the white corpuscles.

Dr. Lyman said there was a difference between the mode of formation of the red cells in the fœtus and in the mature animal. At first they were formed from the embryonic cells, like the blood-vessels, and were nucleated, but afterward from the red marrow, etc., and were non-nucleated.

The President said that the blood-vessels were formed, as Dr. Lyman had explained, from the coalescence of the walls of the embryonic cells, but the corpuscles were formed from the nuclei of these cells, and they might perhaps multiply by subdividing or budding.

Dr. Patton said that the Germans made two varieties of this disease, the splenic and the lymphatic. In the first the spleen was greatly enlarged and the lymphatic glands were slightly enlarged. In the second the lymphatic glands were greatly enlarged. He thought that where the lymphatic glands showed the greatest enlargement there did not seem to be so great a disproportion between the red and white cells as where the spleen was enlarged and the glands were but slightly enlarged. He considered the granular appearance presented by the white corpuscles under the microscope a post-mortem change.

Double Hydronephrosis.—Dr. L. C. Borland reported a case the diagnosis of which had been made at the autopsy, and showed the kidneys. The patient, a woman, was admitted into St. Luke's Hospital for prolapse of the uterus. No connected history could be obtained, and the urine, through some misunderstanding, was not examined. A friend said that the first trouble had been felt about two months before, and had consisted of a falling of the womb. There was a vile discharge from the womb and rectum, and the nates and perinæum were excoriated. She died within a few days in a convulsion. Dr. Danforth, who made the autopsy, said that there was complete procidentia, also an abdominal tumor apparently more in the right than in the left side. The kidneys appeared like two great watery cysts. The right kidney was of about the size of a man's head, lobulated like a multiple ovarian tumor, with thin and translucent walls, and contained about a quart of amber-colored fluid with a urinous but not offensive odor. It contained albumin, epithelial cells, and Drysdale's corpuscles, which resembled very closely those of an ovarian tumor. These corpuscles from the kidney were, however, he thought, larger, and the yellow point of fat was a little more highly colored than in the corpuscles from the ovary. The left kidney presented some of the original renal structure. It contained less fluid than was found in the right. The fluid was bloody, and contained about 75 per cent. by volume of albumin. The ureters and bladder were enlarged, but there were no ulceration, no twisting of the ureters, and no change in the bladder or elsewhere, which he could assign as a cause for the trouble, unless it was the pressure of the prolapsed uterus on the ureters.

Dr. Skeer referred to a similar case in which the diagnosis had been made after death. The right ureter was found plugged by a calculus; the left kidney was normal.

Dr. Hoadley said that the remarkable point about the case was its being a *double* cystic degeneration. If but one kidney had been affected the treatment would have been removal.

The President showed a specimen of diabetic urine, of a sp. gr. of 1·045, a pint of which, on evaporation, left a residue of an ounce of solid saccharine matter. About 190 ounces were passed daily.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of September 26, 1887.

The Vice-President, Dr. F. R. S. Drake, in the Chair.

Nasal Difficulties in Ear Diseases.—Dr. J. O. Tansley read a paper with this title. Nasal difficulties had a most profound influence on all the acute and chronic ear diseases, and demanded close attention if we wished to cure the aural affection. Time would permit of his alluding only to the ear diseases caused by nasal difficulties, and the recital of cases would have to be omitted for the same reason. Among the nasal difficulties influencing ear disease was everything which occluded one or both nasal passages. This was one great cause of ear affections. When the nasal passages were partially or wholly occluded there was constant effort to clear them by hawking, which kept up congestion of the ear, and we found evidence of congestion and a chronic catarrhal process in the tympanum and changes in the ear. Deviation of the septum was another cause of aural affections. Every aurist should be able to treat such cases. The peculiarity of such cases and the mode of operating adopted by him were briefly considered.

Œdematous tissue, especially of the inferior turbinated bone, sometimes so interfered with the passage of the air as to give rise to ear troubles and require an operation for its removal by the snare, knife, or cautery. Hypertrophied tissue was often accompanied by thickening of the bone. Nasal polypi, in his practice, had had seemingly little effect upon the ear, except where they attained to such a size and density as to occlude the nostril. The reason seemed to be that they were located high up, leaving free exit for the secretions below. Hypertrophied tissue peculiarly placed, but not necessarily occluding, was another cause. A very large percentage of the patients seen by him, and treated for chronic catarrhal otitis, had had more or less hypertrophied tissue upon the posterior aspect of the inferior turbinated bone, and he deemed this one of the most prolific causes of ear diseases. It looked not unlike a mucous wart. This hypertrophied tissue, because of its position, stopped free passage along the floor of the nostril; the air had to go up over it, leaving the secretions on a level with it undisturbed. The Eustachian tube was just posterior to and on a level with this hypertrophy, and in a position to catch the mucus which was dislodged with every forcible inhalation and when the patient lay upon the back or side. It should be removed even if present only in small quantity. He always operated through the nose, using Jarvis's snare. The operation was somewhat difficult, and often severe hæmorrhage followed. Another cause of aural affections was hypertrophied tissue exciting the Eustachian tube, as well as mechanically pressing upon it. This hypertrophied tissue lay just posteriorly to the tube, on the wall of the pharynx; when large in amount it lay in folds, usually ranged up and down. He removed the hypertrophy through the nose by the snare, never by the galvano-cautery, for fear of exciting suppurative otitis. Another cause was bands of tissue stretching from the posterior wall of the pharynx to the Eustachian tube. They were more or less numerous in different subjects, and seemingly cicatricial, the result of previous inflammations. They seemed to act chiefly, if not solely, in a mechanical manner by retaining mucus and rendering it difficult to clear the pharynx. They should be divided with the scissors or torn with the blunt hook. He had never yet met with a Eustachian tube occluded by stricture. He had seen a number which he could not inflate, but the cause had been a growth or pressure.

Then came the different forms of nasal catarrh as influencing ear diseases. Looking back, we saw that nasal difficulties caused ear troubles in four principal ways: 1. The blood dyscrasia, or catarrhal diathesis, which caused the one would also cause the other, but in these conditions there was no natural sequence from the one to the other. 2. The gradual invasion of one cavity by disease of the adjoining cavity. 3. The congestions, sudden or often repeated, brought about by difficulty of clearing the nasal cavity. 4. The influence which peripheral nerve irritations of the nose had upon the ear. This latter was certainly a factor in many ear diseases, but he was not now prepared to state his views upon the subject. The indications were simple and definite: to combat the blood dyscrasia, to cure the inflamed nasal mucous membrane, to restore its normal functions, and, most important of all, to free the nasal cavities of obstructions and encourage nasal breathing.

Dr. O. D. Pomeroy commended the paper. A frequent condition was a patulous state of the Eustachian tube, opening and allowing the air to be spilled out of the ear. A too open tube was a condition almost worse than obstruction. Stricture of the tube was very rare. He objected to the nasal douche, fearing that water might enter the tube.

Dr. O. B. Douglas, Dr. A. S. Hunter, and Dr. David Webster continued the discussion.

Terebene in Diseases of the Lungs.—Dr. D. M. Cammann read a paper in which he said that during the past year he had used terebene frequently in cases of emphysema, phthisis, and bronchitis, and the histories of some of the cases he read in full. In concluding he said that, taking these cases in connection with others already reported, it could be affirmed that in terebene we had a valuable drug in affections of the air-passages. In acute and chronic cases of emphysema it seemed especially beneficial in lessening the dyspnœa. It was less irritating than oil of turpentine.

Book Notices.

On the Animal Alkaloids. The Ptomaines, Leucomaines, and Extractives in their Pathological Relations. Being a short Summary of Recent Researches as to the Origin of some Diseases by or through the Physiological Processes going on during Life. By Sir William Aitken, Knt., M. D., F. R. S., Professor of Pathology in the Army Medical School. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. vi–61. [Price, $1.]

This little work treats of a very interesting and comparatively new subject. Little has been known in regard to the animal alkaloids until recently, but the few investigations that have thus far been made have abundantly proved their importance as essential factors in the production of many pathological conditions, and any contribution upon this subject by such a well-known writer will receive wide recognition.

There will be many readers of this work, however, who will widely dissent from the author's views, and who will not credit him with an unbiased treatment of his subject.

There has been a tendency during the last few years, among certain medical writers, to ascribe to the action of micro-organisms a predominating influence in the causation of disease. There is in this work a similar tendency to ascribe to the influence of the animal alkaloids an almost exclusive agency in the production of pathological conditions, and to thrust far into the background all other influences, and especially those exerted by the action of low forms of vegetable life. There can be no question that both of these views are incorrect. There are many certainly who will not agree with the author in the statement that such fevers as "typhus may be at once spontaneous in origin and contagious as to propagation," or that there is a "typhoid series of ailments in which ordinary typhoid fever stands between the simple fever of overtaxation and orthodox typhus," and that "*auto-infection*, or the inhalation of morbific organic emanations, may start an epidemic" of either of these diseases. This is a retrogression to the pathology of fifty years ago. The tirade against the "hunters for microbes" is certainly inopportune in view of the immense advances that have been made in medicine during the last ten years through their contributions to our knowledge of the relations of micro-organisms to disease. The author would apparently "emancipate us from the tyranny of a belief in any microbial creed as the sole cause of any disease," only to substitute a still more tyrannical one—a belief in the sole agency of the animal alkaloids in the production of disease.

Unfortunately, the value of the good matter that the book contains is largely counteracted by the manifest bias of the writer.

The Urine. Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Illustrated. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. 43. [Price, 50 cents.]

This is a small manual intended for the guidance of laboratory workers in the chemical and microscopical examination of the urine. The pages are printed on only one side, and, besides the printed matter, the book contains in the back part a number of blank leaves designed apparently for notes. The work commences with a table giving the chemical composition of normal urine with the average percentage and daily excretion of its constituents. Following this is a description of the physical characteristics and the usual chemical tests for the ordinary normal and abnormal constituents of the urine, and the work concludes with a description of the microscopical characters of the urinary sediments. There are several illustrations of different forms of apparatus and the appearance of the urinary sediments.

The book contains no original observations, and, like many similar small works, although the subject-matter is good of its kind, yet it is not full enough to be of much value. The directions for the tests and the statements as to the significance to be attached to the results are not given in sufficient detail to be of great value to the student or inexperienced worker, while the experienced laboratory student would rarely have occasion to refer to such a work.

It would serve well as a synopsis of the author's lectures on this subject, for which perhaps it was intended.

The Medical News Visiting-List, 1888. Philadelphia: Lea Brothers & Co., 1887. Pp. 224.

This is one of a class of annual publications that are so very useful in facilitating the routine of a physician's daily work that they are getting to be depended upon more and more every year. This particular book is a creditable representative of the class—compact, neat, and durable in its mechanical get-up, and convenient in the arrangement of the printed matter contained in it, as well as in that of the blank pages for various memoranda.

GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Alcan, Paris.—Bœckel, "Étude sur les kystes hydatiques du rein au point de vue chirurgicale." (2*fr.*)

J. B. Baillière, Paris.—J. Honnorat, "Processus histologique de l'œdème pulmonaire d'origine cardiaque." (3*fr.*) —— J. Luys, "Les émotions chez les sujets en état d'hypnotisme." (*5fr.*) —— M. Vallas, "Sur les ulcérations tuberculeuses de la peau." (*2fr.*)

A. Delahaye & E. Lecrosnier, Paris.—Veroudart, "Des limites de la conservation après les traumatismes de la main." (*4fr.*) —— Panel, "D'un moyen pratique de photographier le fond de l'œil." (*2fr.*) —— P. Muller, "De la toux utérine." (*2fr. 50.*) —— E. Bourgoin, "Traité de pharmacie galénique." New ed. (*15fr.*) —— C. Durey, "Contribution à l'étude du rétrécissement de l'artère pulmonaire." (*3fr. 50.*) —— Hamon de Fresnay, "Considérations pratiques sur les présentations de la face." (*2fr.*) —— L. Baumel, "Maladies de l'appareil digestif." (*9fr.*) —— Bataille, "Traumatisme et névropathie." (*4fr.*)

K. Nilsson & Cie, Paris.—G. Smirnoff, "Développement de la méthode de Scarenzio."

G. Steinheil, Paris.—P. Renault, "Manuel de trachéotomie." (*1fr. 50.*) —— C. Caravias, "Recherches expérimentales et cliniques sur l'antipyrine." (*4fr.*)

H. Barsdorf, Leipsic.—J. Kühn, "Die Prostitution im 19. Jahrhundert und die Verhütung der Syphilis." 3d ed. (*4M.*)

J. F. Bergmann, Wiesbaden.—P. Fürbringer, "Ueber die Desinfection der Hände des Arztes." (*1M. 20.*) —— H. Steinbrügge, "Ueber secundäre Sinnesempfindungen." (*0M. 80.*)

H. Dominicus, Prague.—J. Rychna, "Ueber Schülerepidemien." (*1M. 20.*)

F. Enke, Stuttgart.—B. Bardenheuer, "Der extraperitonäale Explorativschnitt." —— A. Benekiser and M. Hofmeier, "Beiträge zur Anatomie des schwangeren u. kreisenden Uterus." —— H. Fischer, "Lehrbuch der allgemeinen Chirurgie." —— E. Fleischl v. Marxow, "Die Bedeutung des Herzschlages für die Athmung." (*6M.*) T. Heryng, "Die Heilbarkeit der Larynxphthise und ihre chirurgische Behandlung." (*6M.*) —— R. Kobert, "Kompendium der praktischen Toxikologie." (*4M.*)

G. Fischer, Jena.—L. Goetze, "Die Chylurie, ihre Ursachen und ihr Zustandekommen." (*1M. 50.*)

A. Hirschwald, Berlin.—O. Liebreich, "Die historische Entwicklung der Heilmittellehre." (*0M. 80.*) —— J. Munk, "Physiologie des Menschen und der Säugethiere." 2d ed. (*14M.*)

K. Krabbe, Stuttgart.—E. Engelhorn, "Schulgesundheitspflege." (*3M. 60.*)

R. Kühn, Jr., Elbing.—Fleischer, "Die Tollwuthkrankheit." (*0M. 80.*)

Schmid, Francke, & Co., Berne.—A. Schreiber, "Neuerungen und Verbesserungen in den Applikationen der Frakturenbehandlung." (*3M.*)

F. C. W. Vogel, Leipsic.—G. Bunge, "Lehrbuch der physiologischen und pathologischen Chemie." (*8M.*) —— F. v. Birch-Hirschfeld, "Lehrbuch der pathologischen Anatomie." 3d ed., vol. ii, part 2. (*12M.*)

F. Vallardi, Rome.—E. Perroncito, "I parassiti dell' uomo e degli animali utili." (*20l.*) —— G. Chiarleoni, "Malaria e funzioni della riproduzione nella donna." (*1l. 25.*)

BOOKS AND PAMPHLETS RECEIVED.

Un Optofocómetro. Por el Dr. José Palacios. [Edicion de "Boletin de Medicina."]

Annual Address. Modes of Infection. By William H. Welch, M. D., Professor of Pathology, Johns Hopkins University, Baltimore. [Reprinted from "Transactions of the Medical and Chirurgical Faculty of Maryland," for 1887.]

Six Hundred Medical Don'ts; or, the Physician's Utility enhanced. By Ferd. C. Valentine, M. D., ex-Surgeon-General, Army of Honduras; Member of the Medical Society of the County of New York, etc. New York: G. W. Dillingham, 1887. Pp. 9 to 144.

Transactions of the American Surgical Association. Volume the Fifth. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. xx–383.

Miner's New Index Rerum for Students and Professional Men for Saving Knowledge. Pocket Size. Also arranged for an Account-book for Petty Accounts for Physicians and others. Joel A. Miner, Pubisher, Ann Arbor, Mich.

The True Nature and Definition of Insanity. By C. H. Hughes, M. D., of St. Louis, Mo. [Reprinted from the "Alienist and Neurologist."]

Some Phases of Evolution. An Address delivered at the Opening of the Memphis Hospital Medical College, October 4, 1887. By T. J. Crofford, M. D., Professor of Physiology. [Supplement to the "Mississippi Valley Medical Monthly."]

Salt in Dermal Hygiene and Therapeutics. By Henry G. Piffard, M. D., New York. Abstract of a Paper read at the Eleventh Annual Meeting of the American Dermatological Association, September 1, 1887. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

The Treatment of Neuralgia in General Practice. By Gustavus Eliot, A. M., M. D., New Haven, Conn. Read before the Section of Psychological Medicine and Diseases of the Nervous System of the Ninth International Medical Congress, September 8, 1887.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

Necrosis of the Cochlea.—Hartmann ("Arch. of Otology," xvi, 3) reports a case of this kind in a young student who acquired an acute inflammation of the left ear, followed by a purulent discharge, in November, 1885. Five months later a polypus was removed with the loop, followed by intense pain and paralysis of the facial nerve. At the end of April the mastoid process was opened with the chisel, and a communication with the external auditory canal was said to have existed. Early in June a sequestrum as large as a pea was removed from the meatus, and the facial paralysis then slowly disappeared. In the external meatus, stenosis and granulations developed. Repeated efforts were made to enlarge the canal with the knife and galvano-cautery. Early in October headache, vomiting, and fever occurred, but disappeared in a few days. In March, 1886, Hartmann first saw the patient. There was then no facial paralysis, and there was a moderate purulent discharge. The external meatus was extremely narrow at the bottom, and the probe detected rough bone, which was slightly movable. The following day this bone was removed with a sharp hook, and proved to consist of a portion of the cochlea, including the two upper turns. The patient heard the tones of seven octaves, C–C^5, from the vertex on the healthy side. From the left mastoid process nearly all the tuning-forks were heard. On the right side it could not be determined whether the small C fork was heard on the right or left side. The C^1 and C^2 forks were both heard markedly stronger on the left than on the right side. Gruber's experiment showed the same result. Hence it follows that the perception of the tones of the low tuning-forks was transferred from the mastoid process to the side devoid of the cochlea. On the other hand, the high tuning-forks were heard by the patient on the healthy side. The examination of the hearing by other auxiliaries gave a negative result. The discharge continued for some months, but finally ceased completely.

Polypus of the Tympanic Cavity with Imperforate Membrana Tympani.—Eitelberg (*ibid.*) reports a case of this kind in a young girl, aged fifteen, who complained of a continuous intense pain in the right ear for three days. Three years previously the patient had had a stinging sensation in the same ear for a week, and had been troubled with tinnitus for two weeks previous to the beginning of the pain. The posterior part of the drum-head was bulged out, swollen, of a reddish-gray color, and partially devoid of epidermis. Masses of epidermis lying in the auditory canal were removed. By Politzer's inflation method no perforation noise could be heard, but the pain was greatly relieved, and soon ceased entirely. There was no fluctuation in the drum membrane, but a doughy resistance. The membrane was perforated, and a roundish red tumor immediately appeared in the opening. In a few days the perforation became larger, and the secretion from the tympanic mucous membrane became profuse. The polypus was the size of a pea, and sprang by a broad pedicle from the mucous membrane of the promontory. Lukewarm baths with a four-per-cent. solution of boric acid, containing 10 grammes of alcohol and 15 grammes of distilled water, were prescribed, and in four weeks the polypus had entirely disappeared. The opening then rapidly closed. The hearing had improved from 0 to 10 centimetres for the watch, and medium loud conversation was heard at six metres with the left ear closed.

The Question of testing the Hearing by Means of Tuning-forks.—Barth (*ibid.*) considers that in examinations by tuning-forks, bells, etc., repeated on the same healthy or diseased person, concordant results are always obtained. We have an undoubted available measure in the duration of vibration. Whether the vibrations decrease in arithmetical or geometrical progression is immaterial. The main sources of error consist in the irregularity of striking the tuning-fork and in the uncertainty of determining the moment when the sound has died away. Another error might occur through the (possibly varying) logarithmical decrement. These errors are, however, not very important; it is sufficient that the tuning-forks vibrate equally and during the same time. He suggests that every kind of vibration decreasing in any progression may be imagined as an isosceles triangle, in which the initial amplitude is indicated by the base, the duration of vibration by the altitude. Whether a tuning-fork sound quickly or slowly, the amplitude will always be equal in the same fractions of the duration of vibration if the initial amplitude remains the same. If the amplitude decreases in any progression, and if the intensity is in a certain known relation to the amplitude, the intensity also must decrease in the same proportion. With equal initial intensity it is quite indifferent whether the intensity decreases rapidly or slowly; with equal fractions of the duration of vibration the intensity will always be the same.

The Graphic Representation of the Results obtained by testing the Hearing with Tuning-forks.—Hartmann (*ibid.*) describes his method of testing the hearing as follows: In order to obtain, by aid of various tuning-forks, a complete picture of a certain form of deafness, he employs the vibratory duration for the patient's ear as the numerator of a fraction whose denominator represents the duration for the normal ear, and the latter he makes equal to 100. If, for example, a tuning-fork that is heard by the normal ear for 40 seconds remains audible to the deaf ear for 10 seconds, then the fraction would be $\frac{10}{40} = \frac{25}{100}$. He formerly employed six forks, but now he employs five: $C = 128$, $C^1 = 256$, $C^2 = 512$, $C^3 = 1{,}024$, and $C^4 = 2{,}048$ vibrations. The low-pitched forks are made to vibrate by squeezing with the fingers and suddenly letting go; the high-pitched forks by striking them sharply and forcibly on a block of wood. When examining a patient by air-conduction he places the fork before the ear in such a way that the ends of the tines are held as near the opening on the external auditory canal as possible. When examining the bone-conduction, the fork is set perpendicularly on the mastoid process. The best-adapted forks are those which have a vibratory duration of about 30 to 60 seconds to the normal ear. The charts employed in recording the results of the examinations of cases of impaired hearing are so arranged that the upper half is used for registering the results obtained in the examination for air-conduction, the lower half for the results obtained in the examination for bone-conduction. The proportion, calculated in percentages, of the time that the tuning-fork is heard by the deaf ear to the time determined as the average for the normal ear is then registered in red colors in the spaces allotted for the several tuning-forks. The results obtained for bone-conduction are not registered in their proportion to the normal standard found for bone-conduction, but are recorded in their relation to the average normal hearing by air-conduction. It must be remarked that the vibratory duration is much shorter when the tuning-fork is rested on a solid body than when allowed free vibration in the air.

The Diagnostic Value of Rinne's Experiment, with Remarks on the Physiological Function of the Sound-conducting Apparatus.—Bezold (*ibid.*) discusses the diagnostic value of Rinne's experiment as follows: The experiment depends exclusively upon the amount of time by which the tuning-fork is heard longer by the tested ear by aerial conduction, or, under pathological conditions, longer by bone-conduction, than by the opposite form of conduction. The reason why bone-conduction so often exceeds aerial conduction in affections of the sound-conducting apparatus lies, probably, in an increased tension of the sound-conducting apparatus, such as we assume exists in a great majority of diseases of the middle ear. Rinne's experiment is quickest to perform, and the least wearisome. It does not tell directly how much the hearing by aerial or bone-conduction is diminished in comparison with the healthy ear, but it gives us that proportion which is subject to the greatest variations in the disease with which we are here concerned, and hence offers the most striking figures. Rinne's assertion that the experiment always results positively in the healthy ear has been unanimously confirmed by all authors. The experiment should always be amplified by testing the bone-conduction by the second method. The uniform, positive result of Rinne's experiment in the natural ear justifies us in assuming that the remarkable variations from the normal observed in deaf persons are also due to the same purely physical causes within the ear as account for its uniform result in the normal ear. If we compare the results of tuning-fork tests in persistent perforations and cicatrices of the membrana tympani with those giving the negative results of the experiment, we shall find as perfect an agreement between the two as could be expected from a method in which we must rely upon the subjective observation of the patient. The result of this comparison is that we gain powerful support for the theory that in every case in which Rinne's experiment results negatively (except in cases of excessive difference between the hearing of the two ears) there must exist some mechanical affection of the sound-conducting apparatus which in some way disturbs its unstable equilibrium. The negative result of Rinne's experiment in all bilateral diseases of the ear, and in which there is not too great a difference between the hearing of the two ears, proves that some alteration is present in the conducting apparatus. But we have no right to expect a negative result of the experiment in all cases in which the middle ear is affected. The experiment is, on the contrary, much more frequently shortened, but positive, viz.: 1. In the chronic cases with negative mirror and catheter examination and relatively good hearing. 2. In acute and subacute diseases of the middle ear, with exudation in the tympanum, and despite great diminution of hearing. 3. In high degrees of unilateral affections, inversely, the experiment may result negatively, despite the fact that the sound-conducting apparatus is intact. A normally long and but little abbreviated positive result of Rinne's experiment, with great diminution of hearing, and with otherwise negative mirror or air-douche symptoms, permits us to exclude any extensive disease of the sound-conducting apparatus, no matter whether the attack is unilateral or bilateral. Bezold has made the discovery that we can voluntarily and suddenly annihilate the tone of the large A-fork, whilst vibrating loudly and close to the ear, by rarefying the air in the middle-ear space. If we next force the drum-head out by using Valsalva's experiment, the tone is heard once more in its former intensity. We can produce this alternate disappearance and reappearance six or seven times while the A-fork is gradually dying away in front of the ear. The opposite condition of high and low tones in partial or total interference with the function of the conducting apparatus compels us to acknowledge that the sound-conducting apparatus serves to transmit only those waves of sound for the lower portion of the scale which strike the ear by aerial conduction; for the upper part of the scale it is superfluous. Whenever the function of the conducting apparatus is disturbed, the ear loses its capacity for the perception of aerial tones of the lower part of the scale, at least from A downward, which strike it by aerial conduction.

The Vertigo of Meniere's Disease.—Gellé ("Ann. des mal. de l'oreille," Sept., 1887) gives in detail the histories of the autopsy in three cases of Ménière's disease, and draws the following conclusions: 1. The vertigo attack of the acute type may exist for several years without lesion of the labyrinthine nerve or of the auditory nerve. 2. The vertigo is met with in the most diverse lesions of the middle ear. 3. These lesions of the drum-cavity all present the following common characteristic: they all tend directly or indirectly to close incompletely the labyrinth, either by ankylosis of the stapes to the oval window, or by obliteration of the round window. 4. The mechanism of the shock or commotion of the labyrinth is explained by the loss of all safety-valves; every movement, even vibratory, to which it is subjected causes an injurious shock, and provokes the reactions known since the time of Flourens, under the influence of traumatism of the semicircular canals. 5. The mobility of one part of the labyrinthine wall is indispensable to the production of abnormal irritation of the labyrinthine nerve, and explains the intensity of the effects consequent on any concussion. 6. An important element necessary to the comprehension of the genesis of the auricular vertigo and its varieties is the state of reflex hyperæsthesia and hyperexcitability of the acoustic nerve, due to the repetition of local and functional irritations. 7. The vertigo may exist with or without tabes.

Obstruction of the Eustachian Tubes in Diabetic Patients.—Miot ("Rev. mens. de laryngologie et d'otologie," June 1, 1887) draws the following conclusions from his observations: 1. Tumefaction, with œdema of the mucous membrane lining the Eustachian tubes, is a complication of diabetes. 2. Ordinary treatment proves of no avail in this affection. 3. The continuous current of electricity diminishes the congestive state of the mucous membrane, and permits the introduction of bougies as well as the employment of the chemical galvano-caustic. 4. The chemical galvano-caustic increases the lumen of the canal, and seems to be the most efficacious and most rapid means of restoring its functions.

Centripetal and Centrifugal Pressure on the Tympanic Membrane employed as a means of Diagnosis and Treatment.—Miot ("Rev. mens. de laryngologie et d'otologie," July 1, 1887) draws the following conclusions from his investigations on the above subject: 1. Feeble pressure exerted upon the drum-cavities of persons endowed with a normal sense of hearing produces a feeble action upon the articulation between the stapes and the vestibule. Moderate and strong pressure cause evident subjective symptoms of compression—such as tinnitus, vertigo, etc. These symptoms vary in appearance according to the sensibility of the subjects. 2. Weak pressure has no effect on the articulation between stapes and vestibule in patients affected with a sclerosing otitis media. In order to produce an effect such pressure should be the stronger the less perfectly this articulation performs its functions. Moderate and strong pressure, applied to the diagnosis of pathological modifications of this articulation, only admit of recognizing the presence of ankylosis. Its employment, at proper intervals, may advantageously modify in some cases these pathological conditions, which, if left to themselves, would of necessity become aggravated.

Cerebral Abscess; Trephining; Recovery.—Barr ("Arch. of Otol.," xvi, 2) reports a case of this kind in a boy, aged nine, who had had an offensive discharge from the right ear for a year. Three weeks before admission into the hospital he was seized with severe pain in the affected ear and side of the head, accompanied by a hot and dry skin, and followed by vomiting and drowsiness. These symptoms continued for four days: the vomiting then ceased, but the pain and drowsiness remained. Eight days from the commencement of the symptoms he had a severe rigor, which lasted fifteen minutes. He had six rigors before admission to the hospital, and the pain and drowsiness persisted. There was a perforation in the upper part of the tympanic membrane, from which pus escaped. Firm pressure over the mastoid produced pain. Barr opened the mastoid cells by chiseling through the cortex behind the auditory canal, and injected a weak solution of carbolic acid through the antrum and tympanic cavity out by the external meatus, and also in the reverse direction. A small quantity of pus and caseous *débris* was washed out. A drainage-tube was introduced into the orifice in the bone, and iodoform used as a dressing. Twice a day afterward an antiseptic solution was forced through the opening and drum in both directions. Two days later he had a rigor, and the symptoms returned. Five days later there was a sudden and copious discharge of pus from the ear. All the symptoms subsequently became worse, and ptosis of the right upper lid appeared, and it was decided to trephine the skull. The middle ear was washed out with an antiseptic solution, and the scalp and neighboring parts carefully cleansed with turpentine and methylated spirit. A half-inch disc of bone was removed from the squamous portion of the temporal, at a point an inch and a half above and half an inch behind the center of the external auditory meatus. When the dura was opened and turned aside, the brain tissue immediately bulged into the osseous cavity, and rose above its external level. A hollow needle was inserted into the brain, and, after it had penetrated about three quarters of an inch, there was a sudden escape of foul gas, accompanied by a bubbling sound and the escape of some fluid. The needle was inserted a little farther, when pus of an offensive odor flowed out. The aperture in the brain tissue was enlarged with a forceps, and portions of necrosed brain tissue were removed. The cavity was then washed out with a saturated solution of boracic acid. Pus continued to ooze from the wound, and an aperture was then drilled into the base of the skull, just above the osseous boundary of the external auditory meatus, involving the squamo-petrosal suture. The dura mater was here intact. It was opened and the abscess reached. A stream of boric-acid solution was passed through this aperture so as to wash out the cavity of the abscess, and it made its exit freely by the upper opening. The current was then reversed. Chicken-bone drainage-tubes were introduced into both apertures, and the parts were thickly covered with boric-acid powder and dressed with sublimated wood-wool pads. The wounds were dressed about once a week. The softened brain tissue at the seat of the upper opening in the skull soon presented a mass of granulations, which increased in size and rose into the aperture in the bone, uniting with the layer which formed on the exterior of the skull. The two soon became blended, and cicatrization rapidly progressed. The child increased in flesh rapidly, and was at the end of six weeks quite well. Three months after his admission all secretion had stopped in the ear, leaving a dry perforation behind. A vulcanite shield was fitted over the upper aperture in the skull, the lower one having completely closed.

The Mechanism of Chronic Purulent Myringitis in Tuberculous Individuals.—Moos ("Arch. of Otol.," xvi, 1) gives the results of his investigations of tuberculous myringitis so called. In the Malpighian layer he found irregular hyperplasiæ in the direction of the cuticular layer, and the proliferation also formed true papillæ with loops of blood-vessels between them. These hyperplasiæ sometimes reach as far as the manubrial artery. In the cuticular layer the normal blood-vessels are dilated and gorged with blood-corpuscles. There are also numerous newly formed blood-vessels, especially in the membrana flaccida. The neighborhood of the external wall of the blood-vessels are more or less infiltrated with round cells, and the interstices of the cuticular connective tissue are studded with round, multinuclear, and pus cells. The newly formed connective tissue is the product partly of round cells which have been transformed into spindle cells, and partly of the proliferation of the mural elements of the blood-vessels. The inflammatory changes of the cuticular layer extend into the wall of the external auditory canal for several millimetres. Near the handle of the hammer the purulent infiltration is most pronounced, causing destruction not only of the cuticular layer itself, but also of the adjacent periosteal layer of the handle. In consequence of this, all the layers of the drum membrane covering the lateral aspect of the handle disappear, leaving the carious bone bare. The inflammatory changes of the mucous membrane and the consequent tissue hyperplasia differ but little from those found in the cuticular layer. As a rule, the hyperplasia is most pronounced in the region of the handle, and at the inner surface of the ventricular ligament. As regards the changes in the substantia propria, Moos has never been able to find true vascular inflammation of the substantia propria in the myringitis occurring in tubercular individuals. As a rule, the substantia propria suffers angular and arched displacements in consequence of the pressure of the enormous mass of exudation. If this pressure increases still more, the substantia propria will be ruptured by the forcible displacement of its fibers. Whenever the substantia propria is ruptured, hæmorrhage takes place. But true hæmorrhagic infiltration must be distinguished from the hæmorrhagic effusion into the interstices of the cuticular tissue, as described above. It may be either circumscribed or diffuse.

The Cupula-formations in the Human Labyrinth.—Steinbrügge (*ibid.*) has been making some investigations into the significance of the cupula-formations in the labyrinth of the human ear, and draws the following conclusions: If we regard a mechanical commotion of the auditory hairs through the motion of the endolymph an adequate irritation for the terminations of the auditory nerve in the ampullæ and sacculi, and if, furthermore, it should be established that the auditory hairs in the ampullæ as well as in the sacculi during life are enveloped by a tenacious fluid of greater consistence than the endolymph, then there can be no doubt that this substance restricts the vibrations of the auditory hairs, and thus acts as a protecting apparatus and damper. Under the presumption of a gelatinous mass in the region of the cristæ and the maculæ, we may conclude that the peripheric excitability of the vestibular nerve must rise or fall the instant the slightest fluctuation occurs in the consistence of the substance enveloping the hairs. With reference to this point we can only entertain conjectures so long as the function of the nerve-epithelium of the sacculi is unknown, and the exact chemical composition of the endolymphatic fluids and the cupula-substances is not understood.

Deafness due to Quinine.—Perron (" Rev. mens. de laryngologie et d'otologie," Nov. 1, 1887) reports a case of this kind occurring in a man aged thirty-seven. In 1863, while in Algeria, he had severe miasmatic fever, for which he took very large doses of quinine, which resulted in temporary deafness and tinnitus. This condition of alternate miasmatic poisoning and administration of large doses of quinine were frequently repeated until 1870. The patient then left Algeria, and since then he has had no miasmatic attack, but the deafness and tinnitus remained, and he has had occasional attacks of vertigo and nausea. Afterward he had an acute attack of deafness lasting several days. When examined in September, 1887, the drum membranes were found sclerosed and hyperæmic, and an examination showed that the internal ear or labyrinth was more affected on the side corresponding to the most marked signs of otitis media. The otitis media was probably of the proliferous type, and there was no sign of any catarrhal trouble having existed in the naso-pharynx. The Eustachian tubes were both open.

Miscellany.

The Doctor's Wife.—" It is useless," says the " Boston Medical and Surgical Journal," " to suppose for an instant that any description of the doctor's wife can do justice to her, for doctors' wives differ as stars from each other in magnitude, or, a comparison more to the point, quite as widely as their husbands. It is even doubtful if a composite photograph could so blend their many virtues and individualities as to produce a face in which each community could find their own doctor's wife. But yet, as a class, the wives of physicians possess certain common traits, as well as common graces, which are known and appreciated not only by their husbands, but by all those who possess an extended acquaintance with doctors and their families, though these characteristics are modified by the peculiarities of the woman, and the character of the practice to which she is wedded. The wife of a doctor in general practice differs very decidedly from the wife of a specialist. The business of the latter is commonly confined to certain hours; his office-door is tended by a trained servant, who does not need appeal to the wife for information as to the doctor's whereabouts; but, in general practice, when the domestic answers the bell, and holds a parley with the anxious individual who wishes to find the doctor, the doctor's wife is very apt to be somewhere within hearing, at the head of the stairs, or behind the office-door, and is very likely to take the conversation into her own hands. She, perhaps, knows the caller, and is able to dispose of him according to his merits. If it is near the time of the doctor's return, she may exercise various transparent devices for keeping him, allowing him, if he is garrulous, to tell her what has driven him to consult the doctor.

" In the early days of her married life she may have gone forth herself to pursue her husband in his route through the village, to hasten his footsteps in some new direction; but it would take something very unusual to start her off in a chase after the doctor in her maturer years. It seems to be a superstition among the more helpless class of patients that the doctor's wife must have some share of the wisdom which they attribute to her husband, and it is by no means rare for her advice to be asked as to the course to be followed when the doctor himself is not available, and she learns, in the course of years, a series of stock recommendations—that a baby in a fit may be safely put into hot water, that a broken leg can be left an hour or two until the doctor comes.

" But there are patients who resent her interference and disregard her suggestions. They will neither tell their errand nor promise to call again. They arouse, sometimes, her pity, sometimes her curiosity, a quality of which the model doctor's wife should possess but a minimum. She finds it difficult, sometimes, to manifest a proper interest in her husband's business without appearing too curious. She is seldom a gossip, or, if she is a little talkative with her neighbors, one of the staple topics of conversation will be the dreadful uncommunicativeness of her husband, whom, under such circumstances, she will possibly characterize as 'close-mouthed.'

" The doctor's wife is almost sure to hold strong opinions on hygienic subjects, and she talks with an air of learning about sewers and traps and ventilation. If she is the wife of a doctor who practices in the city, she holds strong ideas about medical charities. Perhaps she appreciates too highly the doctor's unpaid efforts. She has been known to express very radical ideas about hospitals, and night-calls she abominates. She does not like the doctor to imperil his life by attendance on diphtheria. In fact, her constant tendency is to overvalue his services. She feels that he does not receive all he ought for the exhausting labor he performs. And yet, with the sweet inconsistency which belongs to the sex, she hurries the good man off on certain occasions. She has been known to drop to sleep after the night-bell had summoned him, and, awakened again by the noise he makes on his return, oblivious of the time that has passed, to chide him that he has not yet started.

" She takes it to heart when the doctor is discharged from a case and a rival practitioner installed over it, and if the family who have thought it for their interest to make the change are numbered among her friends, a little coolness is an almost inevitable result. Her lifelong friends do not always fully appreciate her husband's peculiar virtues, and it is a constant surprise to her that any of them should continue to employ their old practitioner.

" The doctor's wife is usually emphatically the domestic manager. The domestic machinery is of necessity left to her control, for the irregular and absorbing nature of the doctor's vocation renders him somewhat unreliable as a purveyor. He is occasionally absent-minded, even when present in the body. If he undertakes to do the marketing, he will forget to order the dinner. On the other hand, the care of the children is apt to pass into the doctor's hands rather more than in other families. He gets up at night to see why John coughs, and what it is that makes Benjamin so restless.

" There is one fond delusion which the doctor's wife hides in her own breast, and never reveals, except to her mother, her sisters, and her few intimate friends, and occasionally to her husband, when he is particularly exasperating: she is sure that her husband's success in his profession is, in reality, due to her. His professional attainments are all very well, but, without her directing hand, who can tell where his lack of worldly wisdom would have led him ? "

Whereupon an unfortunate, who signs himself " Cœlebs, M. D.," writes to our contemporary as follows: " Your remarks in the last issue of your valuable journal upon the Doctor's Wife call forth from my heart certain personal reminiscences not unmixed with pain. 'Pins,' says the infant prodigy, 'save a great many people's lives because they don't swallow them.' So doctors' wives ruin the prospects of hundreds of us young fellows because we don't have them. Shall I tell you my sad fate ? Two years ago, on the death of old Dr. Gamboge, two of us, as is the custom, moved into town to take his place. My friend and classmate, Dr. Benedick (alas, no longer my friend !), and I each arrived on the ground about half an hour after the old doctor had breathed his last. We were pretty well matched in what is popularly but erroneously supposed to be the preparation for practice, and we entered the race neck and neck. We were, as Vergil says, or might have said, *Et secare pares, et exercere parati.* Well, we took lodgings on opposite sides of the main street, and the fight began. As fast as I scored a point Benedick scored another, and somehow his points always seemed to count for a little more than mine. I went to the brick church, which was larger, and he went to the wooden meeting-house, which had the most old families. My chimney blew down and I got it in for a five-liner in the local paper, but the next week one corner of his house took fire and he got it in for ten lines. I put on my door an old-fashioned knocker and he put in an electric bell. The country people knew all about knockers, but the electric bell was something they couldn't quite grasp (figuratively I mean; they grasped it often enough literally). Finally I fell into the common pit, and bought a horse long before I needed it or could afford it. The first time I passed Benedick on the street he smiled in an unpleasant way and said: 'Oho, I've got on to a racket worth two of that,' and the next thing I knew he was married. His wife distanced my horse in no time. She went to the sewing-circle and every good patient he ever had was brought into the conversation in some way. Even if he was only called into a house to see the cook, the women all learned that he had been there, though they didn't know (for 'I mustn't talk about my husband's affairs') who the patient was. Then, when the wedding-calls were returned, into every house went some mysterious hint, not too definite, of Benedick's wonderful success. Were there children in the family, 'The doctor is so fond of children, and they all take to him so quickly!' Had any of the household met with an accident, 'The doctor is very fond of surgery.' Were any little dresses in making, 'My husband is such a good baby-doctor. Whatever should I do if it weren't for him!' She always found out who the family physician was, and this information, of course, was the first and most important step toward ousting him. If a new-comer moved into town, the grocer and butcher were hardly more prompt in leaving their cards at the back door than Madam in presenting *her* business-card at the front door. If little Susy Simmons swallowed a pin, and the horrified mother was running amuck for the nearest doctor she could find, she was beguiled in by Mrs. Benedick to wait for her doctor, whom she 'expected in every minute.' No emergency cases ever would wait for me to come home, and whenever a patient eager for immediate healing turned away from my door, he was invariably gathered in by the siren across the way, who either entertained him till her partner's return, or else got his name booked for a visit. They were two, or more than two, to my one. It takes two men to run the Punch and Judy show—one to work the figures, the other to do the talking, get in the crowd, and take up the collection. I had to run my show alone, and didn't take up much money. I wonder if King Lemuel's mother did not have such a doctor's wife in mind when she told him the memorable story of the virtuous woman. There are certain internal evidences that she did. 'She perceiveth that her merchandise is good. *Her candle goeth not out by night.* . . . Her husband is known in the gates, where he sitteth among the elders of the land.' By the way, Mrs. Benedick has already got her husband on to the School Committee, and, I hear, is thinking of sending him to the Legislature next year. There is nothing left for me but to move on and try it somewhere else. *Væ victis.* I fondly thought when I spent my money for a horse and carriage that I held the 'right bower'; but I have found that Benedick has the 'joker.' And now, before trying my fortune in a new field, I must have, cost what it may, a wife. Bitter experience, as well as the tenor of your editorial, convince me of it."

California Brandy.—The impression is very general that brandy is the most wholesome of all distilled liquors. This feeling is settled and of long standing, not only among physicians, but with the laity. It has almost the force of an instinct; when, in the course of an illness, it is thought best to resort to the use of alcohol, the idea of brandy is the first to suggest itself to most minds. It is usually the case that there is some substantial foundation for a wide-spread belief, and our conviction is that the general preference for brandy as a stimulant and nutrient rests on solid grounds. In the Journal for June 28 and July 5, 1884, we gave an account of some very careful and elaborate observations upon the point by M. Dujardin-Beaumetz. Like previous experimenters, M. Dujardin-Beaumetz found that brandy was far less deleterious than other distilled liquors, by reason of its alcohol being chiefly that of the ethyl series. While it is not to be denied that certain fine brands of other liquors approach brandy in their freedom from injurious constituents, the general fact remains that, as compared with whisky, rum, and gin, brandy is to be preferred. Nevertheless, whisky and other liquors have come into use to a great extent of late years for medicinal purposes, but there can be little doubt that this is largely owing to the recognized difficulty—amounting practically to an impossibility—of obtaining pure French brandy. In our issue for December 8, 1883, we published a forcible article on "French Brandy," by Dr. Adolph W. Miller, of Philadelphia, read before the Alumni Association of the Auxiliary Department of Medicine of the University of Pennsylvania. In that article Dr. Miller said: "The term 'brandy' seems to be no longer applied to a spirit produced by the fermentation of grapes, but to a complex mixture the alcohol of which is derived from grain, potatoes, or, worst of all, the refuse of the beet-sugar refineries. It would seem to be fairly impossible at present to purchase a pure cognac, as each individual proprietor of a vineyard has become a distiller and compounder. He has acquired the art of imitating any special flavor or vintage of brandy that may be called for. Potato spirits and beet alcohols, the most deleterious and obnoxious of all the varieties of spirits, are sent from Germany into France in vast quantities. They are flavored, colored, and branded or labeled to meet the wishes of American connoisseurs. The mere fact of coming out of bond or 'straight through the custom-house' is generally accepted here as sufficient evidence that they are pure and genuine. It is rather unfortunate that physicians themselves frequently strengthen this hallucination in favor of imported spirits by giving the most stringent orders to their patients to procure genuine French cognac, even though it may command tenfold the price of an absolutely pure spirit of domestic production. This imperative command becomes a cruel injustice in the case of poor patients, whom it is perhaps necessary to support for months on alcohol. Under the best of circumstances, what is there to be gained by the use of French brandy in preference to *pure* domestic spirit?"

Such being the case, it was natural to turn to California brandy. There was every *a priori* reason to assume that good brandy was produced in California, and residents of that State persistently asserted that it was to be had there. As a matter of fact, however, any attempt to get good California brandy in the eastern markets generally resulted in the purchaser's being saddled with a lot of villainous stuff—fiery, utterly destitute of bouquet, and extremely productive of "Katzenjammer." To what was this owing? Undoubtedly to our absurd yearning after imported articles—a state of the public mind that would have made it ruinous for California producers of good brandy to put it on the market under its own name. It is unquestionable that for many years past the best brandy obtainable in this market has been the product of California, but the small consumer could obtain it only by asking for "French brandy" and paying an excessive price. Of course, there has been poor brandy made in California, as well as much that, while essentially good, was immature. Such products have been sold under the name of California brandy, and unfortunately it is from them that the brandy of the Pacific coast has largely been judged of. But happily this unnatural state of things is passing away; we are gradually learning that various articles of American production are far superior to any that can be imported, and that California brandy is one of them. In particular, the "royal grape brandy" furnished by the California Vintage Company we believe to be unsurpassed by any brandy made in France, whether we consider its flavor or its purity; and rarely equaled. It is smooth to the tongue and delicate and fruity in both taste and aroma, and a considerable trial of it has satisfied us of its absolute freedom from extraneous substances. Considering the very moderate price asked for it—really not greater than one has to pay for good whisky—it seems to us a duty on the part of physicians to employ it with their patients.

Operations for Laceration of the Perinæum.—At a recent meeting of the Gynæcological and Obstetrical Society of Baltimore, Dr. H. M. Wilson gave an interesting account of a case of tetanoid constriction of the uterus. In the discussion, which turned upon perinæorrhaphy, Dr. H. P. C. Wilson said that, in his opinion, the tear should be closed immediately after delivery, and, if it was not done within twelve hours thereafter, it was better to defer the operation for two or three months, preferably the latter. Several times lately he had been solicited to operate a few weeks after confinement, but he made it a rule to decline invariably. He had long since discarded the use of the catheter after perinæorrhaphy, unless the woman was unable to pass urine naturally, and he never gave the patient an opiate. Whether the laceration was down to the sphincter or through it, and up the recto-vaginal septum, he always repaired the injury at one operation, and his failures in the first attempt had been very exceptional. He had as yet failed to comprehend the technique of Emmet's new operation. Dr. W. E. Moseley differed with Dr. Wilson as to Dr. Emmet's new perinæum operation being such a very complicated and difficult one to perform. It was more difficult to understand than the trefoil operation, but, if one saw Dr. Emmet or any one else familiar with the details of the operation perform it, and then did it for himself, many of the apparent difficulties would disappear. It required rather more skillful manipulation and more sutures than the older operations, but the results justified the additional care and time used. He had performed the operation a large number of times since Dr. Emmet described it at the meeting of the American Gynæcological Association, in Philadelphia, in 1883, and had found that it accomplished just what its author alleged for it. Among its advantages were greater comfort to the patient after the operation, rendering the use of anodynes practically unnecessary, the discontinuance of the use of the catheter, and the formation of a firm but very much more elastic perinæum than resulted from the trefoil operation, a condition of the greatest importance to the patient in any subsequent confinement.

The New York Academy of Medicine.—The Section in Theory and Practice of Medicine will meet on Tuesday evening, the 20th inst. Dr. F. A. Burrall will read a paper on "Some Uses of Oleum Hyperici," and Dr. George A. Richards will read one on "Seventeen Cases of Sunstroke treated in the New York Hospital in 1887."

The Section in Obstetrics and Diseases of Women and Children will meet on Thursday evening, the 22d inst. Dr. M. Putnam Jacobi will read a paper on "The Nature and Dangers of Intra-uterine Medication."

The Section in Materia Medica and Therapeutics will meet on Friday evening, the 23d inst. Dr. S. Baruch will read a paper entitled "Therapeutic Memoranda on Diphtheria, with special reference to the Value of Large Doses of Oleum Terebinthinæ," and Dr. H. N. Vineberg will read one on "The Internal Administration of Bichloride of Mercury as an Adjunct to the Local Treatment of Circumuterine Inflammations."

The Section in Laryngology and Rhinology will meet on Tuesday evening, the 27th inst. Dr. Henry Schweig will read a paper on "Some of the Causes of Vocal Disturbance," and Dr. D. H. Goodwillie will read one on "Nasal Intubation," with demonstrations.

The Unwarrantable Use of Physicians' Names.—"Dr. Hammond will satisfy a long-felt want," says the Philadelphia "Public Ledger," "if he succeeds with his motion that the New York Medical Jurisprudence Society appoint a committee on 'personal rights.' This is designed to protect people from having their names signed against their will to documents they do not agree to or approve of. The thing which gives immediate impulse to the movement is the unauthorized use of names of physicians appended to trashy nostrums, soaps, beverages, etc. The unwary scientist, or actress, public speaker or singer, artist, surgeon, professional man or woman, beautiful or otherwise distinguished, is in constant peril of reading that he or she writes with the pen or the ink, or washes hands with the soap afterward, that is to be made famous by this connection. If not in peril of seeing their facsimile signatures signed in praise of some Greek-named 'pick-you-up,' or plaster, or pain-cure, they avoid this Scylla by running into a Charybdis of assumed approval. A medical man can hardly mention, in a lecture or in casual remarks, the chance use of any formula except at risk of finding the fences placarded with it at an early day. Dr. Hammond has kicked, and has called for aid upon a society that should be as well informed on legal as on surgical operations, and remedies other than medical. By prescribing for a brother practitioner in this respect the society will incidentally benefit the rest of mankind."

A Servant's Unfortunate Mistake is thus recorded in the "American Practitioner and News," of Louisville: "A careful and skillful physician of this city, recently, being about to make a vaginal examination of a patient, ordered a servant of the lady to bring him some lard. The servant understood him to say 'lye' instead of lard, and brought a teaspoonful of concentrated lye, which was at that time in use in the kitchen for scrubbing purposes. The physician, not dreaming of such a mistake, and finding the lye about of the consistence and color of lard, anointed his finger and introduced it. The patient complained of atrocious pain, which the doctor thought due to some nervous trouble until his finger began to smart, when he made a closer examination and discovered the unfortunate mistake. The caustic produced extensive sloughing of the vagina and vulva, which will necessarily be very refractory to treatment. The chagrin of the physician may be imagined, though he had acted only as any of us might have done under the circumstances."

"Sanitas" Disinfecting Oil.—Mr. James Startin, writing to the editor of the "Lancet," says: "'Sanitas' oil completely covers the disagreeable smell of iodoform in ointments, etc., besides being a valuable application in all ulcers, specific or otherwise, in deodorizing and in helping the process of healing." The oil is said also to be a good solvent of iodoform.

The Health of Michigan.—According to the secretary of the State Board of Health's summary of returns made to the board during the five weeks ending December 3d, diphtheria was reported from 63 places, scarlet fever from 36, typhoid fever from 39, and measles from 18.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 9th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 19th corresponded to an annual rate of 21·1 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Hull, viz., 13·5, and the highest in Blackburn, viz., 30·4 in a thousand. Small-pox caused 25 deaths in Sheffield.

London.—One thousand six hundred and thirty-eight deaths were registered during the week ending November 19th, including 25 from measles, 41 from scarlet fever, 25 from diphtheria, 54 from whooping-cough, 1 from typhus, 23 from enteric fever, and 11 from diarrhœa and dysentery. There were 461 deaths from diseases of the respiratory organs. Different forms of violence caused 60 deaths, and 7 suicides were registered. The deaths from all causes corresponded to an annual rate of 20·3 in a thousand. In greater London 2,019 deaths were registered, corresponding to an annual rate of 19·5 in a thousand of the population. In the "outer ring" 5 deaths from diphtheria, 10 from measles, 8 from scarlet fever, and 11 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 19th in the sixteen principal town districts of Ireland was 27 in a thousand of the population. The lowest rate was recorded in Sligo, viz., 4·8, and the highest in Dublin, viz., 34 in a thousand.

Dublin.—Two hundred and thirty-four deaths were registered during the week ending November 19th, including 5 from measles, 3 from whooping-cough, 8 from scarlet fever, 3 from diphtheria, and 3 from enteric fever. Diseases of the respiratory organs caused 53 deaths. Two accidental deaths were registered, and in 38 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 34·6 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 19th corresponded to an annual rate of 22 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 17·3, and the highest in Aberdeen, viz., 24·4 in a thousand. The aggregate number of deaths registered from all causes was 549, including 8 from measles, 16 from scarlet fever, 7 from diphtheria, 26 from whooping-cough, 11 from fever, and 6 from diarrhœa.

Germany.—The deaths registered in fifty-one cities of Germany, having an aggregate population of 6,606,196, during the week ending

November 5th corresponded to an annual rate of 20·3 in a thousand. The lowest rate was recorded in München-Gladbach, viz., 13·4, and the highest in Dantzic, viz., 32·5.

Malta.—The United States consul, in his dispatch dated November 16, 1887, states that "this island has been declared free from cholera or other contagious disease, and the local government commenced yesterday issuing clean bills of health. The British bark Brothers Apap, which called here from Alexandria, Egypt, with a cargo of rags, bound to New Haven, Conn., left for the latter port, without having communicated with this island, on the eve of the government declaring Malta free from cholera. The quarantine restrictions hitherto maintained against arrivals from southern Italy and Sicily have been raised, vessels from any port being now admitted here to pratique."

Gibraltar.—The secretary of the board of health, under date of November 16, 1887, states that "the board of health have decided to remove, from this date, the existing restrictions on arrivals at this port from southern Italy and Sicily."

Cadiz.—The United States consul, in his dispatch under date of November 14, 1887, states that "small-pox is prevailing quite extensively in this province and Seville, especially at Sanbucar, at the mouth of the Guadalquivir, and somewhat in towns adjacent to Cadiz, but is not reported as having yet appeared here, though there are rumors to that effect, the city council having at its session of last Friday ordered precautionary measures by general vaccination and cleansing."

Florence.—The United States consul, in his cablegram dated December 2, 1887, states that "Agent Cagliari reports cholera at Terralba, Sardinia."

Santiago, Chili.—The United States minister telegraphed, under date of December 1, 1887: "Peru closes ports." "This is understood to mean that Peru closes her ports to all vessels coming from Chili, on account of cholera. Similar action, as appears from a dispatch sent from Lima, has been taken at Panama."

Havana.—Six hundred and fifty-eight deaths were registered during the month of November, 1887, including 24 from yellow fever, 6 from enteric fever, 239 from small-pox, 1 from bilious fever, 2 from intermittent fever, 7 from so-called pernicious fever, 2 from diphtheria, and 3 from croup. Small-pox is reported to be on the increase in Havana and adjacent towns.

Santiago de Cuba.—The sanitary inspector reports for the week ending November 26, 1887, 2 deaths from yellow fever on a Spanish man-of-war in the harbor; a third case is convalescing. At the military hospital there have been noted 10 cases, of which 9 died—3 were new arrivals and the rest had been in the country one year.

Mortality Table, Foreign Cities.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	Novemb'r 19.	2,260,045	910	..	....	7	....	16	6	27
Glasgow	Novemb'r 19.	545,678	241	.	....	....	....	4	2	4
Warsaw	Novemb'r 12.	439,174	201	..	....	7	....	....	9	3
Calcutta	October 22.	433,219	242	21	....	....	....	....	....	....
Amsterdam	Novemb'r 19.	378,686	121	..	....	....	....	1	3	2
Rome	October 2.	373,356	202	..	....	7	....	12	1	3
Rio de Janeiro	October 8.	300,000	322	..	....	113	....	5	....	1
Rio de Janeiro	October 15.	300,000	272	..	....	96	....	2	....	2
Rio de Janeiro	October 22.	300,000	284	..	1	72	....	4	....	4
Copenhagen	Novemb'r 15.	290,000	173	..	....	....	....	1	10	3
Edinburgh	Novemb'r 19.	258,659	102	..	....	....	1	4	1	1
Palermo	Novemb'r 20.	250,000	93	..	....	....	....	2	....	4
Belfast	Novemb'r 19.	224,422	122	..	....	....	1	4	1	2
Genoa	Novemb'r 19.	179,526	103	..	....	16	1	....	1	....
Leipsic	Novemb'r 19.	170,000	51	..	....	....	....	2	1	3
Havre	Novemb'r 19.	112,074	59	..	....	1	....	7	....	....
Pernambuco	November 8.	111,000	65	..	....	....	1	1	....	....
Reims	Novemb'r 19.	97,903	38	..	....	....	....	1	....	2

United States.

Tampa, Fla.—Yellow Fever.—The sanitary inspector reported, under date of December 5, 1887, as follows: "Since 30th ultimo, 10 cases; 2 deaths. To-day, no new cases; 1 death. The one remaining patient in hospital will be cared for by city authorities, and hospital will be closed."

Sapelo Quarantine Station.—The medical officer in charge reports, under date of December 9, 1887, relative to the bark Umberto, as follows: "Only suspected; no sickness; disinfected and released. Two more barks expected from Sicily."

ANSWERS TO CORRESPONDENTS.

No. 107.—We have read two of the articles to which you allude, and we think that they bear internal evidence of having been written, or at least inspired, by a woman. We agree with you that in the main they are "sensational," but nevertheless they contain some testimony of positive value (although founded on little else than the feelings of a single person) on certain questions of great importance.

No. 108.—Thus far, ten volumes have been published.

No. 109.—1. There are now several vacancies in the medical corps of the navy—in the neighborhood of fifteen, we think. 2. See our answer to No. 106 in the last number of the Journal. 3. Unless a change has been made recently, the pay of a newly appointed assistant surgeon is at the rate of $1,000 a year when on leave or waiting orders, $1,400 when on shore duty, and $1,700 when at sea.

No. 110.—The New York Eye and Ear Infirmary and the Manhattan Eye and Ear Hospital are separate institutions.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, December 24, 1887.

Original Communications.

CONSTITUTIONAL CAUSES OF THROAT AFFECTIONS.*

By S. W. LANGMAID, M. D.,
BOSTON.

I think you will all agree with me that, outside of the consideration of certain nervous phenomena, hardly anything has been said in these meetings upon the subject of constitutional causes of morbid appearances in the throat and abnormal phenomena of sensation and function. That such causes have not escaped your notice I am well aware, since successful treatment is otherwise impossible. This short paper, then, is in no wise an exhaustive treatise, but is to be considered as simply suggestive of a large field for investigation and discovery.

While I would not be understood as undervaluing the minute and systematic description of morbid appearances and functional peculiarities of the upper respiratory tract, I would suggest that a most interesting and important lesson to be learned from such observation and description is, that all that is morbid in this region has underlying causes which *may* be external to the body but may be *intrinsic*, and the exhibition of natural or acquired idiosyncrasies of the individual.

An exhaustive discussion of such constitutional conditions means the consideration of all that is known of medicine and its kindred sciences; to be satisfied with less in the practice of our profession means deliberate intellectual suicide and gross injustice to our patients. That the members of this society are free from the stigma which is sometimes ignorantly applied to those who practice specially, the original and exhaustively learned papers which make up our archives bear witness.

It has sometimes seemed to me that our attention has been too commonly fixed upon the local morbid phenomena of diseased throats, and, again, that we are prone to consider climatic conditions as causes rather than factors in the production of such disease.

That atmospheric conditions do affect the respiratory mucous membrane no one doubts, but why such atmospheric conditions are operative at one time in the same individual, and innoxious at another time, is well worth our consideration.

That a pharyngitis may be the tell-tale of a poisoned or morbid condition of the general system is evident when we think for a moment of the pharyngeal exhibition of acute diseases, of scarlatina, of measles, of typhoid fever, of syphilis, of phthisis, of sewer-gas poisoning.

Who can deny that morbid conditions of the system which, although as yet not well understood, are known in some way to be due to wrong functioning in the chylopoietic system, may be the *fons et origo* of many intractable faucial inflammations? That such is the case, I have enough evidence to direct successful treatment. The congested, excessively irritable pharynx of alcoholism is so well marked as to make a diagnosis unquestionable. Indeed, the hereditary succession of a son of one of the partners in a large mercantile house was prevented by my obstinate refusal to consider the condition of the throat as the result of anything but the daily ingestion of large amounts of alcohol, the truth of such belief on my part being in a few months placed beyond question by the appearance of abdominal ascites and general paralysis.

We must look further than the laryngoscope will enable us to see if we would rightly comprehend the causes of the congested naso-pharynx of the young adolescent. We must consider in young persons how much the process of the second dentition has to do with the stimulation of neighboring parts.

The enlarged submaxillary or cervical glands do not always indicate a scrofulous diathesis; at any rate, the abstraction of the decayed molar will frequently result in the disappearance of the obtrusive glands. And so it is with the enlarged tonsil; the cause of the enlargement will frequently be found in the widespread irritation set up in the process of dentition, and unless the respiration is seriously interfered with the surgical remedy need not be hastily undertaken.

I think I shall voice the experience of many when I say that one of the most intractable diseases which we are called upon to treat is chronic recurring coryza. In many cases the treatment first advocated by our own members—the destruction of the supersensitive areas in the nasal chambers, or the removal of obstructing erectile tissue—seems to constitute a cure, but in other cases no allowable destruction of the mucous membrane or underlying structures seems to more than modify the severity of the seizures and the frequency of their occurrence.

In such cases we must look beyond the mucous membrane, and we shall find that a disordered emotional temperament is at the bottom of the trouble, and, unless the treatment takes in all the circumstances of the life of such a sufferer, very little relief may be expected.

Those nasal or pharyngeal reflex propagating centers will sometimes become singularly dormant during banishment from a luxurious but care-inflicting home to a dusty, drought-seared prairie or amid tropical vegetation, but, in spite of cauterization by hot iron or chemical caustic, will quickly spring into activity as soon as the wanderer regains his former surroundings.

Let him who has tried to banish with sprays and pencilings the long-existing sensation of a "lump in the throat, which rises and threatens to choke" his patient, try the exorcising power of a dose of castor-oil, and he will be surprised to learn that an overloaded colon has been trying to tell its story as stories are told—by the throat. How often will the paroxysmal cough be banished by the same procedure!

In my experience the magic effect of quinine upon an inflamed throat has been clearly shown in a few cases of former residents of a malarious climate, exhibited, I must confess, as a *dernier ressort* when local applications had failed.

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* Read before the American Laryngological Association at its ninth annual congress.

The familiar designation of one form of pharyngitis would seem to imply that Nature herself set the limit to unrestrained sermonizing. "Clergyman's sore throat" exists to-day and teaches its lesson to those of us who study it, although it has long ceased to masquerade in our nomenclature in clerical habiliments.

It is a pharyngitis with the descriptive prefix *follicular*, viz., long continued, chronic. But such a pharyngitis is not peculiar to the sacred teacher. Its origin is not by any means in the necessary use of the voice. The sedentary, studious life, with resulting disordered digestion, together with other conditions inseparable from the profession of the priest, are quite enough to produce a throat affection which has been considered peculiar to clergymen.

I should weary your patience by calling attention to many more forms of throat diseases whose origin is well known to be intrinsic—that is, constitutional. But I may be allowed to refer to just one other well-marked cause of some of the most distressing throat affections—I mean the rheumatic and gouty manifestations.

Many of the older writers considered that acute amygdalitis had a rheumatic origin, and the old treatment by guaiacum has its modern adherents. That the quickest method of relieving the suffering of an acute pharyngitis, tonsilar or otherwise, is through antirrheumatic remedies I have good reason to believe.

So many cases of spasm of the glottis in gouty subjects have come to my notice that I have in two instances lately predicted that, sooner or later, spasm would occur—with unexpectedly speedy verification.

The temptation to enlarge upon the subject of this paper is almost irresistible, but I shall content myself with a final word.

Local treatment is in the nature of *repair ;* the constitutional and hygienic treatment must be in the direction of renewal of normal processes. The swollen and congested mucous membrane, the hypertrophied tonsils, the elongated uvula, and the prominent follicles must be regarded as symptoms only. The pain and discomfort, the spasm of the glottis, or the recurring vocal disability will not be banished for any length of time unless the underlying constitutional abnormity is removed.

POTT'S FRACTURE COMPARED WITH THE FRACTURE OF THE FIBULA WHICH FOLLOWS ADDUCTION OF THE FOOT.*

By ROBERT T. MORRIS, M. D.

When the foot is abducted with sufficient violence, the astragalus rotates from without inward on its antero-posterior axis, and at that instant the tibia assumes the position of an opposing lever, the short arm of which is represented by the internal malleolus, and the long arm by the tibia's shaft.

The fulcrum is composed of the astragalus and os calcis, which retain their relative positions with each other. The principal object which this lever acts upon is the deltoid ligament, and the ligament must either be torn across, or it must pull away a fragment of bone from the short arm of the lever. Ligamentous resistance being overcome, the external surface of the os calcis strikes the tip of the external malleolus, but transmits no important amount of force along the fibula. The fibula breaks because the weight of the body is transferred to it from the strong tibia, and the fracture usually occurs at the weak point, situated from two to four inches from the tip of the fibula's malleolus.

After the accident has happened, the foot has a tendency to remain in an abducted and everted position, by virtue of the action of the peroneus longus muscle ; and the upper end of the lower fragment of the fibula lies to the inner side of the lower end of the upper fragment of that bone.

The injury described above, although differently described by Pott, is familiarly known as Pott's fracture, and, because the name is so well known, the majority of fractures situated near the distal extremity of the fibula and resulting from indirect violence are recorded at the hospitals and in physicians' note-books as cases of this particular variety.

When the foot is adducted with sufficient violence, a fracture of the fibula results, but the mechanism is quite different from that which produces the fracture described above. In this latter case the astragalus, which rotates from within outward on its antero-posterior axis, is limited in its rotation by the simultaneous impinging of its superior external border against the external malleolus, and of its inferior internal border against the internal malleolus. In order that the rotation may be continued, the two malleoli must have an increased distance between them, but the four ligaments—the inferior interosseous, the anterior inferior interosseous, the anterior inferior and posterior inferior tibio-fibular, and the transverse—prevent separation at the inferior tibio-fibular articulation, and consequently the required space can be gained only through fracture of one or both of the bony barriers.

The fracture of both malleoli at the same instant sometimes occurs through the latter mechanism, as I have demonstrated at the "Dead-House." (In the experiments at the "Dead-House," the soft parts about the ankle, with the exception of the ligaments and tendons, were usually dissected away before an attempt at fracturing the bones was made. A stout piece of board of the size and shape of the sole of the foot was then bound very firmly to the sole, and a section of a broom-handle was passed transversely across the sole between the board and the skin. Fractures were then made by throwing the foot in either one or the other direction by means of the broom-handle grasped in my hands, or by standing the cadaver on the abducted or adducted foot, and applying force in a downward direction until bone gave way.) But more often the fibula alone suffers injury, and the point of fracture is usually less than three inches from the tip of the external malleolus—the larger number of fractures occurring through some part of the malleolus itself.

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* Read before the Section in Surgery of the New York Academy of Medicine, December 12, 1887.

This fracture through the malleolus, or through the shaft of the fibula in its vicinity, is usually a transverse one, with little or no displacement of the fragments. Such a fracture is not easily demonstrable by ordinary methods of examination, *but if we pick out the points of local tenderness with the sharp end of a lead-pencil* it will not be difficult to locate the exact position of the crack. The same method of examination will show not only the situation, but also the direction of the line of fracture between the ends of fragments which are not widely separated in other parts of the skeleton, except in cases where the muscular covering is very thick.

When the shaft of the fibula is broken at a point sufficiently far from the malleolus, the ends of the fragments bear about the same relation to each other that they do after Pott's fracture, and there is a depression of the soft parts over the seat of the injury. A tilting outward of the malleolus gives to the front of the ankle at the same time a broadened appearance.

There is little displacement of the foot after this fracture by adduction, unless both tibia and fibula have suffered injury; but in the latter case the deformity is the same as that which accompanies Pott's fracture. There exists no point of marked local tenderness over the region occupied by the deltoid ligament after the fracture by adduction, a condition of things which is strikingly different from that which we find after fracture by abduction.

The treatment of a case of Pott's fracture and of a case of fracture by adduction in which tibia and fibula were both broken would be similar.* The leg should first be flexed to a right angle with the thigh in order to relax the muscles; and then the fragments can be easily replaced unless impaction has occurred. A light plaster-of-Paris splint applied over the leg and ankle and foot will retain the fragments in place; but in case of Pott's fracture, the foot must be held for three or four weeks in a position of adduction, in order to give the deltoid ligament an opportunity for good repair, thereby avoiding a splaying of the foot in after-years.

After the plaster-of-Paris splint has hardened, the leg should be flexed at an obtuse angle with the thigh, in order that muscular relaxation may continue; and in this position the leg should be slung by bandages or other apparatus from a bar over the bed. When the patient moves about in bed, the leg and foot can then move together as one piece.

Hardly any treatment could be more vicious than that by the almost universally employed fracture-box, because the foot is fastened to the box, and the movements of the patient in bed cause movements at the point of the fracture, the foot and box being fixed, and the rest of the body being free. Muscular spasm is not relieved by fracture-box treatment, because the leg remains in a position of extension, and patients suffer unnecessarily.

When repair is well under way, the patient may be allowed to get out of bed, if he will keep the leg elevated upon a chair during the day. After four weeks have elapsed the plaster-of-Paris splint may be removed, and, if union is then firm, massage, passive motion, and hot and cold douching should be employed, in order to restore the ankle joint to a normal condition as soon as possible. Many months will often pass before the injured ankle is as strong as its fellow, and in some perfectly well managed cases the ankle may "feel wrong" for years afterward.

When there is an unusual amount of swelling about the ankle joint, or when the fracture is a compound one (*fracture compliquée*, Fr.; *complicirte Fraktur*, Ger., should be called "complicated fracture," instead of "compound fracture," in English), there can be no harm in freely incising the swollen tissues, under scientific antiseptic precautions, and suturing bony fragments in place. The dressing applied after such an operation should remain unchanged for at least a month, in order that suppuration may be avoided.

After the commonest fracture by adduction, in which the fibula alone is broken, it is not often necessary to sling the leg above the bed, a simple plaster-of-Paris splint for the leg and foot and ankle being all-sufficient. In some cases, however, the patient will complain until the leg has been elevated.

If there is much deformity about the ankle on account of the position of the fragments of the fibula, I should advise cutting down and suturing the ends of the fragments together with silk-worm gut, for, if the ankle joint is not a good hinge, it is not a good ankle joint.

The following nineteen consecutive cases of fracture near the ankle joint, following abduction or adduction of the foot, were treated by me at Bellevue Hospital, New York, in the winter of 1883–'84, during the visiting service of Dr. Fluhrer, Dr. Phelps, and Dr. Gouley. A comparison of the cases will be interesting as regards the proportion of fractures by adduction.

The different statistics of authorities on this point led to careful examination of the cases here referred to.

No.	Name.	Sex.	Age.	Accident.	Direction of duction.	Side.
1	G. McE.	Male.	42	Slipped.	Adduction.	Right.
2	W. W.	Male.	37	Fell from wagon.	Abduction.	Left.
3	J. P.	Male.	36	Fell from car-step.	Adduction.	Right.
4	L. E.	Male.	43	Slipped.	"	"
5	J. M.	Male.	29	"	Abduction.	"
6	J. F.	Female.	28	"	Adduction.	"
7	M. F.	Female.	45	"	"	Left.
8	U. R.	Male.	49	"	"	Right.
9	D. McC.	Male.	45	"	"	"
10	A. D.	Female.	50	"	"	"
11	E. W.	Female.	44	"	Abduction.	"
12	P. O.	Male.	38	"	Adduction.	Left.
13	E. M.	Female.	52	"	"	"
14	M. C.	Male.	54	"	Abduction.	
15	E. G.	Male.	29	"	Adduction.	
16	L. A.	Female.	50	"	Abduction.	
17	J. E.	Male.	55	"	Not decided.	
18	J. D.	Male.	27	"	Abduction.	
19	H. L.	Male.	43	"	Not decided.	

"Slipped" means that the injury occurred while the patient was walking or running.

In cases 17 and 19 the two important points—the statement of the patient, and the degree of tenderness over the deltoid ligament—were of no help in getting at a diagnosis.

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* Remarks on treatment are made for the purpose of comparison, and not for the purpose of volunteering information on this subject.

THE DANGER OF DELAY IN PROSTATIC TROUBLES.*

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I do not propose to give a systematic or exhaustive essay upon this subject, nor to enter into the different methods by which relief has been obtained by the knife or electricity in extreme cases. My object will be to point out the dangers of delay, and call attention to the method of dealing with this *opprobrium medicinæ* in its earlier stages.

As is well known, this trouble is very common. Yet while many suffer from it, and not a few are brought by it to a premature death, a large number, by care and appropriate treatment, may live on to average old age, leading active and useful lives, without being forced to any of the more severe surgical means of relief. It is also known that death in these cases, where the enlargement of the gland is not malignant, is the result of inflammatory action transmitted through the ureters from the bladder to the kidneys, producing nephritis, with suppression of urine and uræmic poisoning, or pyo-nephritis, with a combination of uræmic and pyæmic sepsis.

Here, *par excellence*, as in many other of the ills of life, *delay* is the great trouble. Either from the fact that virtuous, moral men naturally shrink from making known the derangements of the generative organs, or from the fact that the trouble is slow and insidious in its approach, it is overlooked, or borne with long before medical aid is sought. Said a medical friend to me when speaking of these troubles of the generative organs, "If it were the arm it would not be so bad; we could then speak of it to others; but to be forced to secretly bear the trouble renders the annoyance doubly severe." Or it may be ignorance upon the part of the patient of the nature of the disease which threatens his life; or, possibly, that his medical attendant does not sufficiently early recognize the trouble and fully appreciate the danger of delay, and hence does not sufficiently warn his patient, or resort with the necessary persistency to the means of relief.

The result of this delay was strongly impressed upon me in my early medical life by my first case of prostatic trouble.

The patient, a high-toned old Virginia gentleman of seventy years, too proud and self-reliant to speak of the ills of his generative organs, had suffered this trouble to gradually encroach upon him until he was reduced, by the frequent painful effort at relieving the bladder, to a state of general debility. He did not then ask for medical aid until complete retention forced him to it. I found him with the distended bladder reaching almost to the umbilicus, and suffering severe pain from the retention and an inflamed bladder. With difficulty to myself and much pain to the patient, I passed a catheter and relieved the bladder of the accumulated urine, which was ammoniacal and highly offensive. But the inexperience of youth led me into an error which I should now avoid. I drew off at once the entire amount of urine. The result was, as often happens when a largely distended bladder is suddenly emptied, a depression of the patient, followed by increased trouble of the bladder, already irritated to the point of inflammation. For a few days the urine was heavily loaded with muco-pus; pyo-nephritis, suppression of urine, and death soon followed.

Probably the kidney was already involved; but this depression seemed to hasten the death of the patient. Here the practice should have been to relieve the bladder only in part of its urine—about two thirds—and at the same time to have thrown into it a quantity of warm antiseptic fluid until it was refilled again to about three fourths of the state of distension. After the lapse of an hour, one half of this should have been drawn off, refilling the bladder again with the antiseptic fluid to about one half the state of distension, and then in half an hour or an hour to have completely emptied the bladder, washed it out with an antiseptic fluid, and left an ounce or two of this fluid in the bladder. In this way the shock to the system caused by the too sudden emptying of the bladder would have been avoided, and the danger of increased inflammatory action lessened.

The danger of delay in hypertrophy of the prostate is well pointed out by Dr. Gross in a clinical lecture before the class of young men in the University of Pennsylvania. After describing the case and emptying the bladder of its urine (there was no retention), he said in substance: "This patient has an enlarged prostate, with inflammation of the bladder. We may probably relieve the cystitis by appropriate treatment, unless the inflammatory action has extended to the kidneys. In that event the prognosis is very unfavorable."

This remark tells plainly the dangers of delay. The patient may be able to bear with the annoyance of frequent and difficult micturition for months, and suffer secretly the severe pain and straining to relieve the bladder, even to the extent of chronic cystitis with some chance of relief, but if he delays until the kidneys are involved, the "prognosis is very unfavorable."

A second case, which also occurred some twenty years ago, teaches the same lesson:

I was called to see a negro man of sixty-five or seventy, of remarkably stalwart frame. He was six feet two inches high, with large bones and powerful muscular development. He had been a sufferer for years from the insidious approach of prostatic enlargement, but, through ignorance of the inevitable result of delay, and disdaining, in the pride of his manly strength, to succumb to such a trouble, he bore with the annoyance until it told upon his herculean frame and stretched him an invalid upon his bed. In this condition I was called to his aid. I found him emaciated, with his strongly marked features wearing an expression of long-resisted pain. On inquiry, I learned that he had been for over a month in his bed, suffering, as he expressed it, from "gravel," an invariable name with the negro for all the ills of the bladder. I could at once detect the odor of ammoniacal urine. On examination, I found him with the penis in an open-mouthed bottle to catch the urine as it overflowed from the bladder. The scant secretion of urine was highly ammoniacal, and loaded heavily with muco-pus; and a microscopic examination of the urine revealed the ravages of diffused nephritis. He was beyond medical aid. In a few more days suppression of urine, with uræmic poisoning, brought to a close the life of this robust and stalwart man.

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* Read before the Alabama Surgical and Gynæcological Association, October 13, 1887. Communicated by Dr. W. E. B. Davis, of Birmingham, Ala.

Here ignorance of the real danger had caused the delay which resulted in death. With his physical strength and good constitution, fourscore, instead of threescore and ten, should have been the length of his days.

But there is yet a third class of delays. The condition of the patient is not realized by his medical attendant, and may be masked, so to speak, by other ills which may mislead the attending physician, and cause him to believe he has found the basis of the trouble in other organs; and, thus flattering himself, he neglects to inquire into the urinary troubles with sufficient detail. This the more readily occurs in the better class of patients, where there is a natural reserve upon the part of the patient to reveal his trouble; or, as Dr. Bangs, of New York, has pointed out, even to resent what he considers unnecessary inquisitiveness. The doctor under such circumstances is especially apt to omit the crucial test of a rectal examination.

A case of this character fell into my hands where the patient had been seen by several of the first physicians of the county, and his trouble variously diagnosticated as heart disease, hepatitis, chronic cystitis (correct to a certain extent), and even as hypochondria; but to no one of them, not even the one who diagnosticated the chronic cystitis, did it occur that hypertrophy of the prostate was the real cause of the trouble; and he was suffered to linger on and battle unaided with the disease for another year. At the expiration of this time I saw him. He had been an invalid most of this time, but, being of good constitution, had stood well his constant suffering; but I learned that within the last ten days he had gone down perceptibly, and he was now confined to his room, and most of the day to his bed. The evening before I saw him he had a rigor and severe pain in the region of the kidneys, followed by slight febrile excitement. He was now quite feeble; pulse 110, temperature 101°.

I could detect here, too, the urinous odor, and, on inquiry, found that he was having stillicidium whenever the urine accumulated in his bladder during sleep. While awake he passed his urine every hour or two, which prevented distension. There was decided tenderness on pressure over the hypogastric region. My mind at once adverted to hypertrophy of the prostate as the cause of his trouble. I learned that the passage of the urine had for several years been gradually growing more difficult and more frequent, and that now the calls to pass the urine were every hour or two, attended by painful straining and tenesmus of the rectum.

I at once proposed a rectal examination, from which at first he shrank, both from a natural modesty and from the fear of pain. I told him kindly, yet firmly, that it was absolutely necessary to a proper diagnosis of his case, and assured him the pain would be trifling. He reluctantly consented, and, on examination, I found the prostate enlarged to the size of a turkey's egg, but flattened and broad, the so-called middle lobe not being enlarged to an equal extent with the lateral lobes. This accounted for his ability to still pass his urine without the use of the catheter.

I informed him frankly of the cause of his trouble, and told him my proposed treatment—viz., the use of the catheter to draw off the residual urine, with daily irrigation of the bladder. At this visit, however, I refrained from the use of the catheter on account of the inflamed condition of the bladder, and directed a saline purgative, with salicylate of sodium.

The next evening I introduced, without difficulty or pain, a Benas gum catheter just after he had urinated, and drew off nearly an ounce of residual urine of disagreeable, ammoniacal odor, and by means of a two-way stop-cock and a Davidson syringe irrigated the bladder with a solution of glycerin and essence of gaultheria in warm water. It was very grateful to the patient, and he had a better night's rest than for several nights, not having to be up so often to relieve the bladder. But my patient was still growing more feeble, though we endeavored to sustain him with liberal diet. He had both to-day and last night rigors, with pain in the left side in region of the kidney. The next day the quantity of urine was less, and it was loaded with muco-pus. Microscopic examination revealed the presence of nephritis. The secretion of urine grew daily less and less till it amounted, after a week, to only twelve ounces in twenty-four hours, heavily loaded with pus. Semi-coma supervened, and in thirty-six hours more he had passed away.

Here was a valuable life shortened, no doubt, by a want of timely attention and remedies directed to the real condition. His medical attendants had been deceived by other indications, and his aversion to treatment had caused him to delay too long.

But the inquiries arise, How do these troubles commence? How are we to become aware of the danger? and How can we avoid it? In answering these questions I will continue the somewhat clinical style of this paper.

At from fifty-five to sixty, rarely as early as fifty, there is a slight prolongation of the time of passing the urine. There is no pain, no difficulty, only a prolongation of the time of emptying the bladder. It scarcely attracts the attention of the patient, and he goes on in his usual habits, giving himself but little concern about it. In a year, or probably two years, it becomes more perceptible, and at some time when he has been exposed on a cold, damp day, and has suffered his bladder to become somewhat fuller than usual, he finds considerable difficulty in voiding it, possibly attended by a sense of fullness or slight pain in the perinæum. A return to the warmth of home and a warm pediluvium at night give relief, and, unmindful of the warning, he goes on as before. But he soon finds that the desire to urinate is becoming more frequent, and relief of the bladder becomes more prolonged, and begins to be attended by some straining effort and pain, which is not infrequently referred to the glans penis. He still is not alarmed at his condition, and disregards it. Another year is passed. He is now *annoyed* by the frequency of the calls to relieve the bladder. He is called up frequently at night for this purpose, and, if he is now exposed to cold and damp weather, he relieves his bladder with difficulty, and often he finds the act followed by a few drops of blood, or a prolonged exposure may cause a more decided congestion of the parts and retention of urine, which is not relieved until he is thoroughly warmed in his bed or has taken a warm bath. Like most men, he dreads the catheter, even if it occurs to him as a means of relief, and he still neglects or refuses to seek medical advice.

The trouble now becomes more pronounced. The patient is constantly annoyed by calls to relieve the bladder by day and by night. His urine is passed only after severe straining attended by tenesmus of the rectum, and frequently with loss of blood. He is annoyed by the idea of stone in the bladder. The case has now reached a point at which medical advice is sought, but, with the idea upper-most in his mind that he has stone, or simply cystitis, he may mislead an unsuspecting physician. Now is the time that aid must be had, or soon the bladder, columniated and thickened by its abnormal muscular action, will force the urine, impeded in its outward exit, to flow back through the ureters, causing them to enlarge, and eventually result in disease of the kidneys. Once this chronic inflammatory condition of the bladder is fully established, and the ureters are enlarged by the reflex action of the bladder, the case is serious, it is but a little way to nephritis and death, and the boldest surgical measures are justifiable means of relief. The Mercier operation (or punching, so to speak, an artificial urethra through the obstructing gland), which its inventor alleges to have been wonderfully successful in his hands in Paris, has not been popular here or in England, but may now be resorted to. Dr. J. W. S. Gouley, of New York, has performed it successfully in eight or ten cases, but I saw in his collection of pathological specimens the bladder of a patient (a brother doctor) who had submitted to this operation at his hands. He is now more cautious, and hesitates to operate by this method in cases where the obstructing bridge or bar exceeds an inch in thickness. Gouley, Gross, Thompson, and Gant have resorted to perineal section for the chronic affection which attends hypertrophy of the prostate, and relief has been found and life protracted. Or, when there is entire retention of urine, artificial outlets, with tubation, through the perinæum and also through suprapubic section, have been made with some degree of relief.

An Italian physician has resorted in a few cases successfully to electro-cautery by means of a metallic catheter. It is somewhat similar in principle to the method of Mercier, but reached by different means. Sloughing of the parts in the tract of the instrument follows the cauterization, and an artificial urethra is formed through the obstructing part. The process is not without danger.

Dr. Robert Newman, of New York, has used electrolysis successfully in a number of cases, applying the current through the urethra, not as an actual cautery, but for a very short time only as an absorbent. It is a method that has much promise, and may be used in the earlier stages of the disease to prevent the progress of the enlargement to a dangerous extent.

Electrolysis, by puncturing the gland itself by a suitable galvanic needle, has not, so far as I am aware, been tried; but, from the well-attested success of this method in other tumors, it would seem worthy the attention of some bold innovator.

But all these measures, except that of Dr. Newman, are to be regarded as only applicable to extreme conditions. The object of this paper is to call attention to the trouble in its earlier stages, and avoid if possible these extreme measures. The insidious approach and danger of delay have already been pointed out, and I can not insist too strongly upon timely aid. The physician should ever be on the alert to detect it in its early stages, and ever ready to watch it with unceasing care.

Much relief is often obtained at this period by anodynes, the most potent of which are opium and belladonna, used in the form of suppository. But, as the case may extend over years, caution should be used in prescribing opium, for fear of forming the opium habit. The acute paroxysms of congestion or inflammation are to be met on general principles. Of internal remedies only three have proved of any avail in my hands. These are quinine, ergot, and salicylate of sodium. Quinine is especially applicable to the engorged conditions following exposure to cold. It should be given in decided doses combined with Dover's powder. Ergot (Squibb's fluid extract), 25 drops every two or three hours, used for the same purpose, gives much relief. It has been thought by some to act specifically upon the prostate gland, but I do not see any good grounds for such an opinion. Its action is doubtless here, as under other circumstances, on the capillaries of the congested organ.

The salicylate of sodium, in from 10 to 20 grains every two or three hours, is better suited to the chronic inflammatory conditions of the bladder. I have preferred using an extemporaneously prepared article:

℞ Bicarbonate of sodium, }
Salicylic acid, } ....āā ʒ ij;
Water.............................. ℥ vj.

Mix in a mortar until effervescence ceases. Sig.: Tablespoonful every two hours.

I have seen more decided relief from this than from all other internal remedies. The antiseptic character of the remedy acts favorably upon the urine, as well as upon the irritable condition of the bladder. But we must not depend upon these remedies. No one of them, or all of them, can be relied upon for permanent relief. The catheter, judiciously used, with systematic and persistent irrigation, is the only means to ward off the inevitable results of the affection, and by a judicious use of these alone can life be prolonged and rendered comfortable. Other remedies may be used as adjuvants, but to this at last we must come.

The time for beginning the use of the catheter and irrigation must be determined by the symptoms of each case. So soon as the voiding of the bladder becomes much prolonged and painful, and there is reason to believe there is residual urine, or if the urine becomes from any cause ammoniacal, we should commence to use the catheter, and at least once in twenty-four hours empty the bladder thoroughly and wash it out with an appropriate solution. Many have been suggested, but for early use a solution of chloride of sodium will be found most generally serviceable. Later in the case biborate of sodium, boric acid, or salicylic acid may be used. The following is the formula recommended by Dr. Gouley. I have used it often with much relief:

℞ Bicarbonate of sodium .... ℥ j;
Essence of gaultheria .... ℥ ss.;
Glycerin.......................... ℥ viij.

M. Sig.: Tablespoonful of above in pint of warm water, used once or twice a day.

Or a combination of boro-salicylate may be used. For this purpose I use boroglyceride, ℥ ss.; glycerin, ℥ vj. M. Sig.: Tablespoonful to pint of warm water. The method of using the injection requires tact and discretion. It should be used in such a way as not to give pain, and to secure a thorough irrigation of the bladder.

The Politzer air-bag, with an attachment of a pointed rubber nozzle supplied with stop-cock, is a very convenient and effective method. With this instrument and a Benas catheter the operation may be painlessly and effectively accomplished.

The fountain syringe, or the Davidson syringe used as a siphon, connected to a catheter by rubber tubing, may also be conveniently used, but with these care should be taken not to throw the fluid in too rapidly. The kind of catheter used has much to do with the comfort of the patient and success of the treatment.

In the earlier stages the soft rubber catheter of Jacques, or as prepared by Tiemann & Co., may be conveniently used. But as the gland becomes more seriously enlarged these can not be introduced except by using a stylet, which is objectionable.

The Benas gum catheter, made of plaited silk and smoothly covered with gum, is the best and most convenient I have ever used. It is sufficiently flexible to prevent the danger of injury, and yet stiff enough to be easily introduced without the stylet. The patient may be taught to use it himself without the fear of injury.

I have thus hurriedly pointed out the dangers of delay in this disease, and if I have succeeded in arousing an interest in it that will direct to an earlier detection and a more persistent carrying out of the simple treatment necessary to ward off its baneful sequences, I am content.

REMARKS ON THE TREATMENT OF PUERPERAL CONVULSIONS.*

By WALTER B. CHASE, M.D.,
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Puerperal convulsions of the epileptic or apoplectic variety are fraught with consequences so momentous that definite rules are requisite for their proper management. Nowhere in the domain of medicine are sound judgment, accurate therapeutical knowledge, and prompt action placed under more exacting demands, for on the decision of the accoucheur hangs in a large measure the safety of the patient.

The subject of puerperal convulsions is so broad, and embraces so many questions of vital interest, that no effort will be made in the brief time at my disposal to consider its ætiology, except as related to appropriate treatment, nor to refer to the very important matter of preventive measures, except in passing to remark that grave responsibilities are placed in the hand of the physician who, by previous engagement, assumes the care and conduct of an approaching confinement.

It will therefore be my purpose to study the subject in its clinical aspect, with reference to its therapeutical management. Fortunately, puerperal eclampsia is relatively not a frequent complication of the puerperal state. According to Churchill, in a record of over 200,000 cases, the ratio of puerperal convulsions to the whole number of cases was as 1 to 618 and a fraction, while Lusk estimates its frequency as at about 1 to 500. In my own experience, numbering 10 cases, the ratio was very much larger, being less than 1 to 200, and, while of no statistical value, is simply illustrative of the variation in individual experience.

Statistics show that puerperal convulsions occur most frequently among primiparæ and during early life, and that the percentage of fatal cases is from 15 per cent. to 32 per cent. It also appears, according to Fordyce Barker, that the proportion of deaths in cases occurring before and during labor and subsequent to labor is as 32 per cent. to 22 per cent. There is good reason to believe that a better knowledge of the ætiology of the disease, together with more rational methods of treatment, has lessened and will continue to lessen the mortality. Writers, particularly Bedford, refer to the causes as being of centric and excentric origin. This is an excellent classification, for, when studied from this standpoint, the conclusions reached are likely to be logical, and prepare the way for the adoption of rational principles of treatment.

The first duty of the accoucheur, when called to the responsible care of a case of puerperal convulsions, is to arrest the spasm, and definitely ascertain the cause. If labor has not been completed, two important inquiries must be instituted and correctly answered before sufficient knowledge will have been obtained to decide as to the wise management of the case—viz., the period of gestation and the stage of labor, if the parturient process has commenced. Should the history of the case disclose the fact that the patient had partaken heartily of food difficult of digestion, accompanied with gastric or intestinal uneasiness, or should inquiry give evidence of constipation, of uterine or vesical irritation, or of the presence of hysterical tendencies, these facts will serve as guides or suggestions as to the remedies to be employed. If the case is of the former class, an emetic or mild but prompt cathartic will be indicated; if of the latter class, antispasmodic remedies, such as are indicated in ordinary hysterical manifestations, especially the bromides in full doses, or chloral hydrate, and it may be morphine or anæsthetics. If the case is due to the retention of urine, and consequent distension of the bladder, or hydrops amnii, the use of the catheter or rupture of the bag of waters is indicated. Should doubt remain as to the cause of the convulsive seizure, a specimen of the urine should be promptly obtained, and tests be applied to determine whether evidences of uræmia are present. If albumin or albumin and casts are found, immediate effort should be directed to the relief of the system from the products of insufficient renal secretion, and at the same time to prevent recurrence of the spasm.

It is a well established therapeutical fact that, within certain limitations, the bowels may take on a vicarious function, that of eliminating urea. Here, if ever, drastic cathartics are not only admissible, but in many cases positively indicated. Nothing better fulfills the indication than croton-oil, administered in minim doses, at an interval of half an hour or an hour, until free catharsis is established.

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* Read before the Medical Society of the County of Kings, May 17, 1887.

Elaterium is less irritating, and perhaps equally efficacious.

While I am firmly of the opinion that no remedies are so often abused in general practice as cathartics, little or no fear need be entertained as to their prostrating influence under these circumstances. In the chronic albuminuria following scarlatina, a condition quite analogous, and one often associated with pronounced anæmia, I have repeatedly witnessed the most surprising salutary and curative results follow the administration of these remedies. I therefore repeat, if used with a fair degree of discretion, apprehension need not be entertained as to their depressing influence, for this exhaustion will be more than compensated for in the general relief to the system from the removal of effete products.

In general, it may be stated that the principles governing the treatment of uræmia from other causes and under other circumstances are applicable here. Dry cupping over the kidneys should play a prominent part in the measures employed to relieve renal congestion, and may be advantageously followed by counter-irritants, or the application of large hot poultices sprinkled with the powder of digitalis-leaves. Internally, unless the degree of blood-pressure contra-indicates, digitalis may be administered, preferably in combination with either vegetable or earthy alkaline salts, choice being given to the salts of lithium.

If the case is prolonged, and the patient can swallow, care will be taken to see that proper food is taken. Here milk with lime-water will be well borne, and better fulfill the indications than any other diet. If the patient can not take or retain food by the mouth, enemata of the peptonoids of beef and milk should be used as often as every six hours. Should great depression or blood-poisoning follow as a result of the repeated paroxysms, tonic doses of quinine and alcoholic stimulants are indicated.

The measures to be adopted to control the convulsion are of paramount importance. First, and perhaps the most valuable, is chloroform. Theory suggests and practical experience demonstrates that the wise and persistent use of this remedy alone will, in a certain proportion of cases, arrest and control the convulsion, whether due to uræmic or distinctively reflex causes, and afford the attendant time to take all the bearings and decide as to other remedies. It should be given with circumspection, the circulation and the respiratory movements being carefully watched, not forgetting the fact that while potent for good it has nevertheless very positive toxic powers.

Ranking, perhaps, next to chloroform is chloral hydrate. H. C. Wood concludes that its physiological action is that of a hypnotic upon the cerebrum, and that of a depressant upon the centers of the base of the brain and spinal cord, slowing and weakening the heart, probably due to vaso-motor paralysis, and in fatal doses producing paralysis of nerve-centers, first of the respiration, and finally of the heart in diastole. Thus, from a physiological standpoint, it would seem to meet two conditions often present in puerperal convulsion, that of excessive reflex excitability of the spinal cord and motor nerve-centers with high arterial tension. To be effectual it should be administered in sufficient doses—say a scruple—until its hypnotic, antispasmodic, and depresso-motor power is visibly present. This is a remedy I have used with most satisfactory results by enema when the patient was too comatose from uræmic poisoning to swallow, or suffered from temporary paralysis of the muscles of deglutition from cerebral congestion, induced by the violence of the heart's action during the convulsion.

I recall the case of a multipara who, in the last preceding confinement, had suffered a serious attack of convulsions—which had seriously threatened her life—and in whom for several weeks I had been watching for and had found evidence of uræmic poisoning, and for which she was then under treatment. She had at the fifth month violent and repeated convulsions, which were not controlled by either chloroform or other remedies. Her condition appeared very precarious. There was pronounced coma, with slow and labored breathing and inability to swallow. Forty grains of chloral were dissolved in water and injected into the rectum. If I remember correctly—having no notes of the case, which occurred twelve or fifteen years ago—smaller quantities, of about twenty grains, were repeatedly used in the same manner. Labor progressed rapidly, she was promptly delivered, and there were no further convulsions. The comatose condition passed off during the succeeding day, though well-marked evidences of renal congestion with distressing frontal headache remained for weeks if not months.

Should the dose of chloral seem too positive in its effect from unusual susceptibility of the patient, its dangerous tendencies can largely be overcome by the use of atropine. Its paralyzing action on the cardiac inhibitory nerves when given in moderate doses and its power as a stimulant to the vaso-motor centers seem to meet the exact requirements. The bromides, particularly the bromide of potassium, which is more positively depressing than the other bromine salts, may serve as a valuable drug in these conditions. Its physiological action seems to lie principally in its power to lessen reflex activity. It appears to act upon the centers of reflex action, and also upon the afferent nerves leading to these centers. It should be administered in doses of not less than a drachm and repeated two or three times at short intervals, or as rapidly as absorption has taken place, until its effects are apparent.

One of the great dangers of eclampsia is that from cerebral plethora and its consequences. When the arterial tension is high and capillary resistance is strong, great care is needed to lessen the *vis a tergo* of the circulation.

Formerly, and with some at the present time, bleeding was considered not only the first remedy to be resorted to, but the sheet-anchor of successful treatment. Regarding its power to diminish ventricular cardiac action there is no question, but with a better appreciation of the physiology of the vaso-motor system and the nervous influences which control the circulation, associated with more exact and positive knowledge of therapeutical remedies and appliances, its general and routine use must be challenged.

This plethora of the nerve-centers not only acts as an influence to continue the spasm, but, if not overcome, it may eventuate in rupture of the arterioles and consequent hæmorrhage, or in the development of congestive apoplexy or intra-meningeal effusion and effusion into the ventricles of the brain. If the convulsive attack is of renal origin, the cerebral plethora thus induced adds vastly to the danger and to the liability of the development of uræmic coma.

In a fully developed convulsion of the epileptoid* type, two causes are present which operate most powerfully to the production of cerebral plethora—one, the rapid and violent action of the heart propelling the blood into the brain, and the other, the somewhat tonic spasms of the muscles of respiration and rigidity of the muscles about the throat, which tend to congestion of the right heart and retard a proper return of venous blood from the cranial cavity. If ever, it is here that venesection is admissible or indicated, and it is under conditions like these that the lancet has won its victories, and so commended itself to the esteem and confidence of those who use and approve of it. To be of use, the blood should be rapidly extracted so as to make an immediate and decided impression upon the cerebral vessels. In the strong and plethoric, and in the presence of active cerebral congestion, depleting measures of this kind may be tolerated, and I believe may be of advantage, and while I would not advocate its entire disuse, I beg its advocates to observe great caution in such an heroic measure.

I have used it with varying effect, and, while I have witnessed its failure, I believe I have observed its beneficial results. Let it always be remembered that excessive loss of blood most certainly favors cerebral anæmia, and that, from a physiological standpoint, cerebral anæmia is a most important factor in the causation of certain convulsive movements.

Another incidental advantage of bloodletting, which was formerly much dwelt upon by authors, is its general relaxing influence, which may within certain limits possess real value.

Fortunately, there are resources besides the lancet which exercise a controlling influence over the force and rapidity of the circulation perhaps fully equal to that of venesection, and which are devoid of similar dangers and objections.

The action of veratrum viride appears to meet this condition. The honor of prominently bringing the use of this drug before the profession is due to one of the members of the society, Dr. Herbert Fearn, in 1871. The practice he advocated was the use of fifteen minims or teaspoonful doses at very short intervals, until the pulse became soft or vomiting set in. These might be considered rather heroic doses, but it is a question of effect rather than quantity. Probably no other cardiac sedative is capable of producing such positive effects with so little risk of injury to the system. One of my former associates knew of a half-drachm dose being administered to a child of a few years of age, which was followed by vomiting and considerable vital depression, but was quickly recovered from; and text-books abound with the histories of cases in which patients had taken large doses and escaped without serious consequences. The antidotal powers of either alcohol or opium are such as to promptly overcome the toxic effects if properly watched and promptly administered. That frequently repeated doses, not too large, but administered sufficiently often to promptly reduce the frequency of the pulse, are of great value there can be no question. I have used it only once or twice, but with satisfactory results. As in other conditions attended with rapid and full pulse, its effect can be maintained for hours by repeated small doses without inducing pronounced cardiac weakness, and for the future, should opportunity offer, I shall in appropriate cases further test its power as a remedy from which great good may be expected.

To promptly lessen the risk of cerebral congestion or cerebral hæmorrhage, when the heart's action is strong and the convulsive movements are violent, pressure on the carotids during the convulsion will, by its effect in reducing the force of the circulation, diminish the danger. I remember a case occurring post partum, which I saw with a medical associate about twenty years ago (the most violent I ever witnessed where recovery followed), in which repeated bleeding and the use of other remedies failed to control the spasms; a resort to pressure on the carotids shortened the period both of the convulsion and of the coma following it, and was believed to have contributed materially to the favorable results which eventuated in recovery.

I shall mention as applicable to the treatment of this condition but one other drug—opium and its alkaloids. In the puerperal state, morphine used hypodermically possesses rare sedative and antispasmodic qualities, and in certain conditions, particularly those associated with both nervous and muscular exhaustion, it exerts a calmative influence unequaled by that of any other remedy, by restoring the correlation of the vital forces. The position morphine should occupy as a remedy can not be exactly stated from any *a priori* reasoning as to its physiological effect, nor from its ordinarily accepted therapeutical action alone, but rather from the results of actual use and clinical observation.

The commonly accepted doctrine that opium diminishes secretion and so retards excretion, particularly that of the kidney, is not regarded by accepted authorities as contra-indicative in the uræmia of pregnancy. Its value seems to lie in its power of rendering the system more tolerant of the blood poison, and its evident influence in some cases in producing diuresis and sometimes diaphoresis.

Personally, I have used it in but two cases of puerperal uræmia—to which I shall hereafter refer—in which the results seemed highly satisfactory. The propriety of repeating a moderate dose, in the presence of uræmic coma, where no apparently good effect follows its first administration, may well be doubted. With different observers the results of its use have been so diverse that it must be looked upon as a remedy which, while sometimes powerful for good, may be equally potent for evil.

It should be borne in mind that some of the remedies mentioned are more palliative than curative in their action, and that responsibility does not end with the administration of medicines which may have controlled the spasms. The important question as to delivery of the patient if the attack is ante partum demands patient and careful study.

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* Reference to epileptoid or apoplectic seizures in this connection does not relate to either epilepsy or apoplexy *per se*, but to the form of the puerperal convulsion.

When convulsions occur during pregnancy, the shock to the system is so pronounced that it will most probably bring on uterine contractions, and, if of uræmic origin, the complication is very grave, and, should labor not occur spontaneously, the alternative lies, if the convulsions continue, between the endeavor to relieve the system of the uræmic poisoning, in the hope of carrying the woman to the full term, and the induction of premature labor.

Brown declares that he has known but one patient to recover when abortion did not follow the attack when it happened between the fourth and sixth month. It is difficult to establish any dogmatic rule under these circumstances, and the course pursued must be decided upon by the attendant after carefully weighing all the surrounding circumstances of the case. When convulsions occur after the advent of labor, the indications are plain and the rule of procedure is never doubtful. Under these conditions the convulsions are so likely to continue until the labor is terminated that all the means known to the obstetric art compatible with the safety of the mother should be brought into requisition to hasten delivery.

If the head is at the superior strait and the soft parts are dilated or dilatable, some doubt may be felt whether the forceps should be applied or podalic version resorted to, but, as the uterine structures participate in the general muscular spasm, more than usual difficulty may be experienced in the introduction of the hand (which should be done under full chloroform narcosis), as well as risk of rupture of the uterus while version is being accomplished, though the possible danger mentioned should not exclude version as a most valuable expedient and capable of the highest good to the mother.

Under these circumstances, if there is no disproportion between the diameters of head and the pelvis, resort may be had to the forceps. The higher the head the more difficult the extraction is likely to be and the greater the tact required. Nowhere in the practice of the obstetric art are coolness, sound judgment, and operative skill more requisite, and nowhere are the results more brilliant and conservative. With the extraction of the fœtus the probabilities of a return of the convulsions are greatly diminished and the chances of the patient correspondingly increased.

But puerperal convulsions may not occur until after the termination of labor. I have witnessed several cases of this variety, two of which I have seen somewhat recently—one, my own case, and the other that of a well-known practitioner of this city and a former member of the society.

In my own case the first convulsion occurred ten hours after delivery, and there was but one recurrence of a spasm. It was promptly controlled by a hypodermic injection of one eighth of a grain of morphine and the administration of chloral. This was undoubtedly a case of renal origin, though repeated urinary examinations preceding labor had not given evidence that uræmia was then present. This was a case in which I had some years previously operated for laceration of the cervix in which a partial retearing had occurred, and, while I was unable to trace any relation between the new laceration and the occurrence of the convulsion, I mention it as having been a possible factor in the nervous disturbance.

In the latter case only one convulsion occurred, followed by prolonged sleep, and it was plainly a case of uræmic intoxication. A single hypodermic of one fourth of a grain of morphine, followed by twenty-five minims of the fluid extract of veratrum viride, prevented a recurrence, appropriate measures being taken to restore the renal secretion.

Another most unfortunate case was that of a young primipara, who was under the care of a practitioner of sectarian medicine, who had a single convulsion, which occurred about thirty-six hours subsequent to labor. I saw her just as she was coming out of the convulsion. She soon resumed consciousness, though the sensibilities were not acute, and, to judge of her condition from appearances only, it might have been inferred the symptoms were not of a serious character. Presuming, however, the cause to be centric, a catheter was passed, and a specimen of urine was obtained showing a large percentage of albumin. My only responsible relation to the patient ended a few moments later, when her physician arrived, who was informed of his patient's condition and the cause of the attack. The patient survived only a few hours.

In the treatment of eclampsia succeeding labor the same study of the case and careful analysis of the symptoms as related to the cause, whether of reflex or of toxic origin, can alone lead to rational treatment. Here, generally, the pressure from the renal veins being removed, the complication is not so dangerous, and the difficulty correspondingly less in re-establishing elimination through the kidneys. In the care of these cases the attendant will be importuned by anxious friends to give a positive prognosis. If of uræmic character, neither the severity of the convulsion, the urinary analysis, the apparent degree of blood poisoning, nor the general condition of the patient seems to bear any fixed and positive relation to the gravity of the situation as regards death or recovery, so that considerable latitude should be taken in the expression of opinion regarding the final issue.

645 Marcy Avenue.

SUCCESSFUL REMOVAL OF A PIN FROM THE LARYNX

TWO YEARS AFFER IT HAD BEEN SWALLOWED.*

By S. W. LANGMAID, M. D.,
BOSTON.

On April 23, 1885, Miss C., twenty-four years old, accountant in a large manufacturing establishment, consulted me for hoarseness, ill health, and loss of flesh. The cause of these symptoms was thought by Miss C. to be in some way connected with the swallowing of a pin three months previous to this visit.

The pin, a large one, used to secure bank-notes in bundles' was held in the mouth and in some way was drawn into the throat. In the patient's words, "I came near choking to death. My face was so black (congested) that the blood settled under the skin." The physician who was summoned employed the bristle probang without obtaining the pin. The voice became hoarse, then natural, and again hoarse. Eight or ten pounds of weight have been lost. There is occasional cough, but it is not a marked symptom. Slight difficulty is experienced in swallowing food.

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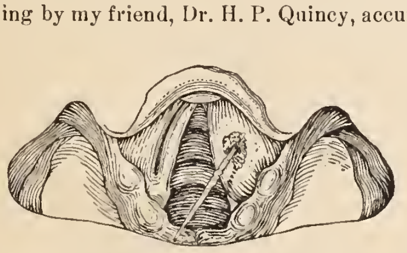
* Read before the American Laryngological Association at its ninth annual congress.

Dr. F. I. Knight happened to be in my office and was kind enough to examine the throat of the patient with me. All that we found was a tumor, ovoid in shape, extending partly across the back wall of the pharynx, by my estimate half an inch above the level of the arytenoids. A view of the glottis was not obtained at that interview. I made at that time the above record, and at a subsequent visit the additional remark that "the tumor seems to be the result of excessive granulation." Subsequently, as this tumor disappeared under treatment by escharotics, the glottis was exposed, and it was found that the topography of the left side of the glottic and supraglottic region was lost. The vocal band could not be distinguished from the ventricular band on account of swelling and universal congestion. On the anterior portion of this swelling, in the region of the ventricular band, I found some small vegetations, which were removed by successive operations. The tumefaction gradually disappeared, the speaking voice was restored, and the former weight of body was regained. A small ulceration on the ventricular band remained, but the patient was so well satisfied with the result of treatment that, although somewhat hoarse, she would not have called upon me again had I not requested her to do so. By this it may be seen that the presence of a pin in the throat was not revealed by rational signs. But I was not satisfied, and I wondered at the persistent small but deep ulceration on the ventricular band, which was unlike anything I had ever seen, except in the pharyngeal tumor of the same patient, which has been described above, and which had disappeared.

Three months ago, at her last visit, there had been no change in the appearance of the larynx, except that a minute black point was seen in the center of the ulceration on the band. This I ascribed to some new point of necrotic process. On May 23, 1887, Miss C. appeared because I had asked her to do so, not because of any new symptoms. One look into the larynx revealed the presence of a pin protruding from the ulceration on the ventricular band obliquely backward and upward above the arytenoids toward the posterior wall of the pharynx, in which the point seemed to be imbedded, but which afterward was seen to move freely in the pharyngeal cavity.

Dr. Knight, being again asked to examine the larynx, agreed with me in the foregoing description. The accompanying cut, from a drawing by my friend, Dr. H. P. Quincy, accurately illustrates the position of the pin. At the first attempt at removal the pin was well grasped where it emerged from the band by Mackenzie's small forceps, but could not be extracted from lack of power in the forceps. The second attempt with Mackenzie's large laryngeal instrument was successful, a surprising amount of forcible traction being required. After removal it was found that almost exactly one half of the pin, which measured four centimetres, had been projecting above the surface of the ventricular band.



The resulting hæmorrhage was insignificant. One week after the operation the larynx was almost normal in color, the swollen ventricular band had receded to its normal position, and no lesion of the true cord could be discovered. The voice was in all respects normal.

With regard to the origin of the pharyngeal tumor, which was seen at the first examination of the patient's throat, whether or not this was the site of the entrance of the pin and what its migrations were, are entirely matters of conjecture.

IMPROVEMENTS IN APPARATUS FOR INHALATION OF COMPRESSED AIR.

By SOLOMON SOLIS-COHEN, M. D.,
PHILADELPHIA.

I desire to briefly describe two improvements in the apparatus for inhalation of compressed air, described in the "New York Medical Journal," October 18, 1884. They have been in use by me for two years in the one case, and for six months in the other case, and should be incorporated in all instruments now furnished by dealers.

1. The supply-valve of the bellows is covered with a cap and nozzle, to which a rubber tube of one-inch aperture can be attached; and the free end of the rubber tube being passed into the open air through a perforated window-board, all the air used is taken from the purest available source.

By using warm water in the gasometer, or by interposing a vessel containing heated water, or a vessel immersed in hot water between the bellows and the window, or between the bellows and the gasometer, the air may be heated, if necessary. The temperature should always be tested with a thermometer. By passing the air through a vessel containing calcium chloride it may be dried, if necessary.

2. The top of the air-cylinder is perforated (the opening being about an inch and a half in diameter), and a screw cap, with rubber washer, is adjusted to close the perforation air-tight. This cap carries a hook, on which a piece of sponge may be placed. When it is desired to medicate the inspired air by means of any volatile medicament—such as terebene, creasote, benzoin, etc.—a small quantity of the desired drug is dropped upon the sponge. Half a drachm of terebene, for example, will keep the air pleasantly charged with its vapor for a week. I find this better than the use of the Wolff bottle in most cases. The temperature of the air must, of course, be sufficient to volatilize the medicament employed.

Note.—A third improvement has been completed within the last few weeks, but has proved so satisfactory in practice that I am induced to depart from my habit of delaying for at least six months' trial the description of a new instrument—the more readily as the principle and the essential mechanism of the device in question have been subjected to proper tests in another connection. An expiratory resistance-valve* has been fitted to the exit-tube of the two-way stop-cock controlling respiratory ingress and egress of air, so that it may be attached or detached, as desired. This enables continuous respiration of compressed air to be practiced when indicated. Though in my own experience the indications for this practice have been few and infrequent, I am glad to be able to offer a simple and inexpensive mechanism for the purpose to those who consider it more generally useful. With a double-cylinder * Cohen-Richardson apparatus and a pair of resistance-valves, the practitioner may now secure all the physiological and therapeutic effects possible with the most elaborate and expensive pneumatic apparatus. None of these devices is or will be patented.

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* See "N. Y. Med. Jour.," Dec. 6, 1887, p. 625. The attachment is made by Codman & Shurtleff, Boston.

Correspondence.

LETTER FROM PARIS.

Fresh Air in the Treatment of Consumption.—The "Optical Purity" of Expired Air.—A Phthiseological Congress.

Paris, *December 10, 1887.*

Professor Brown-Séquard, of the *Collège de France*, is now president of the *Société de biologie*, and gives there the results of his experiments. One of the most interesting subjects that he has lately taken up is that relating to the influence of confined air on the development of pulmonary phthisis. Everything relating to this dire disease, that destroys so many thousands, naturally attracts the attention of all who practice the healing art. Dr. Brown-Séquard first explained to the Academy of Sciences the working of an apparatus that has been invented by M. D'Arsonval, his able assistant professor. This is composed of a bi-conical box that is placed at a certain distance from the patient's head, and is connected by a flexible tube with a chimney, which has a light burning in it making an outward draught, so that all the expiration of the patient is drawn into the box and carried off. Following this, an attempt was made to give inhalations of oxygen gas (pure), but it was found that this gas, given pure, was really a dangerous agent. This fact is not, as a rule, believed in, but it was seen, when given only two or three times a day, to do absolute harm in phthisis. On the contrary, these inhalations became of great use and without any danger when the oxygen gas was mixed with a certain proportion of carbonic-acid gas. In regard to the effects of confined air, it is well known, says the experimenter, that phthisis is most deadly in its action just where the population is the densest, and that where the population is small the mortality is very much less in proportion. It is just the same in factories that are closed up on all sides and contain a large number of workmen, so that confined air is an incessant danger. In 1869 M. Brown-Séquard made a series of experiments on animals which he inoculated with tuberculosis, and yet he did not lose a single one of them. In seeking to find out why this was so, he found that they had been kept in an open garden. These facts are confirmed by the observation, by Stokes, Blake, and himself, of several men who, being attacked by phthisis, decided to live in the open air only, merely entering the house for a few hours at night. One young man was cured completely, and he died twenty-eight years afterward of quite a different disease, so that the danger of confined air is fully demonstrated. Mention was made of certain cases of phthisis in men who were compelled to go into camp during the American war of secession, and of the considerable benefit they derived from camping out. The difficulties, however, experienced in putting the good principle of open windows during day and night into practice are immense, but it is nevertheless certain that many persons with pulmonary cavities have been observed to be cured by this simple means. Still, it can not be denied that frequent accidents, such as bronchial troubles, come from the practice of keeping the windows open. It has also all along been supposed that the expired air was charged with microbes that were dangerous, but Professor (*agrégé*) Straus, of Paris, now comes forward to say that there is an "*entire absence of microbes in expired air.*" Lister was the first to say that air introduced into the pleural cavity by a fracture of the ribs produced quite different effects from those resulting from pneumo-thorax in consequence of a penetrating wound of the chest. This fact was somewhat of a mystery until it was explained by the germ theory, when it seemed natural enough that the air was filtered by the bronchial tubes, whose mission it was to arrest all particles of dust, etc., and prevent their introduction into the pulmonary vesicles. Tyndall afterward showed that expired air was "optically pure"—that is to say, that when it was traversed by a ray of light it showed no particles in suspension. In order to verify this, Professor Straus has employed the modern bacteriological methods with glass tubes and sterilized soup, making the expired air pass through them, and keeping the whole at a temperature of 25° C. [77° F.], passing from 150 to 200 litres of expired air through. Afterward the tubes were kept for several days at 35° C. [95° F.], and, on careful examination, no microbes could be discovered. It seems proved that expired air does not contain microbes, several experimenters, such as Professor Grancher, M. Charrin, and others, having had the same results in regard to the expired air from tubercular patients. The lungs, then, probably act as a filter to air, so far as regards microbes. This is quite possible when we think of the intricate system of narrow canals in which the air circulates in the lungs, which are covered by a humid epithelium. This should be important in regard to the communication of phthisis from husband to wife, from patient to physician, and the like, but it does not weaken at all the proved fact, shown by Pasteur, that microbes are plentiful enough in crowded hospital wards, as well as in barracks, and wherever sick people are found; but it proves that the respiratory act (or at least the *expiratory* act) has nothing to do with contagion.

M. Verneuil, M. Grancher, M. Lannelongue, M. Cornil, and many others with them, are constantly pursuing studies in regard to tuberculosis, and they have decided to call a "congress of physicians," having for its object the scientific study of phthisis in Paris, from the 25th to the 31st of July next. The questions to be dealt with will be of two kinds: first, those chosen by the committee, and, secondly, independent questions relating to the subject that members may wish to present. Any physician (French or foreign) can become a member by sending ten francs ($2) to M. Masson, treasurer, 120 Boulevard St.-Germain. This sum entitles him to a printed copy of the "Proceedings." All communications in regard to the congress should be addressed to Dr. L. H. Petit, secretary-general, No. 11 Rue Monge, Paris. Dr. Petit is one of the librarians at the Faculty of Medicine, and speaks all the European languages, including English. It is hoped that American physicians will take an interest in the congress. Some of the questions announced are as follows: What is the danger in using meat or milk coming from tuberculous animals, and what means are there of preventing it? The modes of introduction and propagation of tuberculosis in the human economy. Prophylactic measures against phthisis. The early diagnosis of tuberculosis in man and in animals, etc. Under the direction of the eminent men mentioned, it is hoped that some very important papers will be presented.

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* The second cylinder being for expiration into rarefied air, the action being made continuous by a double bellows. The mechanism will be described in a future paper. The apparatus is now made by Richardson & Metzger.

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REVERIE, DREAMS, AND DELIRIUM.

The acts, the states of mind, revealed by consciousness are like pictures on an arras-wall, succeeding each other as by magic, distinct, single, but momentary. The myriad moving threads which make up these pictures are unseen and unperceived; the causes which determine the act, state, in all their subtle play escape consciousness; it sees the single resultant, the simple sum of innumerable elements. Magnify this vision of consciousness by perpetual introspection, reverie, vivid dreams, or other cause, and straightway thought is paralyzed and delirium begins. A mental picture voluntarily produced, some pleasing or absorbing fancy, may come at length to dominate its author and secure firm faith in its reality. Mahomet, seeking his solitary cave on Mount Hara for religious contemplation, at length has a vision there of an angel, who commands him to recite what he shall say. When he is convinced at last that it is a holy angel, the revelations continue henceforth throughout his life. Jeanne d'Arc, humble and solitary shepherdess, given to mystic reverie on the quiet hills of Lorraine, hears solemn voices in the air, commanding her to arise and save the king. That Mahomet and the Maid of Orleans did great and noble things proves that they themselves were great and noble souls, obedient to fixed principles, and flexible in judgment. In countless other instances, however, usefulness and power have been utterly destroyed by this fatal tendency to introspection. "Dreams!" says Schonberg, in Hardy's "Wind of Destiny," "beware of them. Between dreaming and living there is a gulf fixed."

Voices and visions, duping those who hear and see them, will appear less surprising if we compare these sounds and sights to the vivid impressions of some dreams—dreams that refuse to be entirely banished by daylight, or the toil and moil of a work-a-day world. They haunt us all day long, they walk with us, they are in the sky, they are in the air, they rise with the leaping flame, and they glow in the smoldering embers. There is a pale, fair girl, standing alone, far, far away: how like to ——! It is all magic, poor deluded fool! only the ghost of a dream that will not vanish though the cock crow and the clock strike. A lasting impression of this kind may become the source of delirium itself—a fact noted by such observers as Fairet, Brierre de Boismont, Moreau of Tours, Chaslin, and Lasègue. This latter insists upon its importance, particularly in alcoholic delirium, which he maintains is not true delirium, but a dream. In the mental wanderings of hysteria, dreams play an important part. Thus may be explained the varied character of hysterical delirium. The activity of the brain during sleep gives rise to hallucinations and delusions that differ, according to the nature of the patient's dreams, from those of the day before. With the ending of imaginary revels in such cases, cloud-capped towers, gorgeous palaces, solemn temples, and unsubstantial pageants do not fade, do not dissolve, but leave many a rack behind. Sometimes the phenomena of dreams become so objective as to produce, after the manner of nervous shock, bodily troubles of strange persistency. Such a case—hysterical paralysis following a dream—is reported by Féré in "Brain," for January, 1887. There exists a close relationship between the baseless fabrics of imagination and the fantastic webs that are spun during sleep. The phenomena of these two distinct conditions are quite capable of producing similar results—results that may prove equally disastrous.

Take, for example, the following history, given by Féré in the "Revue de médecine," as an illustration of what uncontrolled and persistent reverie can lead to. A man, thirty-seven years old, a well-to-do French merchant named M., belongs to a somewhat neurotic family. He is well placed socially, happily married, and at the head of an influential business firm. His two children are strong and hearty, and have never presented neuropathic symptoms. M. is tall, thin, and pale, but muscular and generally well developed. During childhood, night terrors and fits of melancholy were of common occurrence; he was always a gloomy boy, preferring solitude to the society of his fellows, and lonely wanderings to active games. For some years past there have been neurasthenic symptoms, such as vertigo, headache, dyspepsia, etc. Malformations, sensitive spots, as well as anything that can be termed hysterical, are not present. Business received his most assiduous attention until 1886. Then M. began to have what were delicately termed "absences"—that is, he would suddenly stop in the midst of any business occupation whatsoever, stand motionless and smiling for a varying length of time, sometimes for fifteen minutes or so, until recalled to himself by abrupt speech or some loud noise. These "absences" steadily increased in frequency till January, 1887, when the family became alarmed by a lengthy one that took place at the dinner-table, and consulted a physician privately in regard to this curious state that had already made him less current in business and social circles. At this time his general appearance was that of resignation rather than unhappiness. Often his countenance assumed an expression of beatitude that had for years been foreign to it. During these "absences," which now occurred daily, the face became slightly congested but never pale. A stranger, coming into the counting-room about this time and asking for Mr. M., received from the gentleman himself this startling reply: "He is at Chaville." No sooner had the words escaped his lips than M. appeared terrified, and turned and fled. He was soon persuaded to enter his private room, where another "absence" followed. His family were on the point of informing him of his peculiarities, and trying to induce him to seek medical aid, when he suddenly announced his intention of consulting a physician, having apparently clothed himself in his right mind by a somersaultkind of process in attempting so unnecessarily to prove an alibi.

This is what he told the doctor: From earliest childhood, whatever others said and did he was disposed to take in bad part and as an insult, and in consequence hated everybody for the time being. Through fear of his father, who was somewhat severe, these antipathies were carefully concealed. He would steal away to some unfrequented part of the house and sit for hours alone, "nursing his wrath to keep it warm." Then, again, he would spend half the day wandering about by himself out of doors. During these long hours of solitude, M. began the practice of building castles in the air as a regular mental occupation, almost verifying eventually the lines of an old song that says:

> "Hearts are broken, heads are turned,
> By castles in the air."

At first the structures were ephemeral and replaced each day by new ones. By degrees they assumed more substantial and permanent proportions, until young M. grew fonder of his fictitious life than of that of family or school. In imagination he played by turn the rôle of soldier, sailor, warrior, statesman, and scholar, according to his mood. Lessons recited in his presence he did not hear, events transpired without his cognizance, and the only world he knew really well was that evolved out of his own imagination. College days over, life changed for him as the sands change their course in the hourglass that is reversed. From solitude and dreams he plunged into active business life and domestic and social duties. No time now for introspection and reverie! Fortune smiled on M. and made him chief in the establishment that had formerly employed him. He could have counted himself a king of infinite space were it not— This is how it came about. The wife, *enceinte* at the time, began to suffer from some indisposition that disturbed her rest at night. Perhaps the other, by nature, was not a good sleeper. At any rate, insomnia claimed him for its own. At first the nocturnal waking hours were filled with ideas pertaining to business and domestic life. Then his former fanciful imaginings returned, at first hardly tangible and not absorbing, but soon assuming definite forms and taking complete possession of him. For nearly four years dream-life of the following order held him in sway: First, M. built (in the air) at Chaville a pretty pavilion surrounded by a little garden. This jaunty affair received additions from its architect until it assumed the proper proportions of an elegant mansion. The garden widened into a spacious park. Conservatories, orchards, stables, horses, attendants grouped themselves about the charming residence, and finally a beautiful woman was installed as its mistress, the priceless jewel of all this rich setting. More than that, two lovely children completed the joy of this ideal home. But a cloud hung over our happy dreamer—one alone, and that cloud was dark. The exquisite union that raised him to the heights of the empyrean had not the sanction of law, was all unblest of church or state! This constituted the only sorrow he knew, the only drop of bitterness in his overflowing cup of happiness.

Toward his wife M. manifested the greatest coldness and indifference, and seemed to forget the very existence of his children. Business lost all charms for him, and ran along on its old traditions, aided by the chance honesty of the subordinates. The past M. could recall but slightly, even though questioned in the most careful manner. "When that stranger came to me," he said, "I seemed to be in my (imaginary) house at Chaville, selecting hangings of a certain shade. But as soon as I answered his inquiry for Mr. M. by saying 'He is at Chaville,' I knew I must be crazy." He expressed himself as willing to try any means that would lift him out of his pitiable condition, realizing that he alone was responsible for his present miserable plight, yet recognizing at the same time his inability to escape unaided from these fixed ideas that he denied owed their origin to a dream.

Treatment produced marked benefit. It consisted in the application at stated hours night and morning of the cold-water douche, according to the method now in vogue in France, and in the administration of four drops of tincture of chloride of iron, together with eight drops of tincture of nux vomica, before each meal, and a dose of forty-five grains of bromide of potassium at night on going to bed. The former head of the firm was reinstalled, and added to his other duties that of recalling M. to real life whenever he seemed disposed to wander off into reverie. His wife was instructed never to leave him alone, and to see that he was sound asleep before indulging in slumber herself. The hallucinations were evidently visual in origin, for the sight of hangings, furniture, decorations, etc., would set him to work putting his air-castle into more complete order. The mental impression of color was strongly marked in M.'s case. Turning his eyes from any color to a sheet of white paper, he could see upon its blank surface the color complementary to the one he had just been looking at, a condition rare outside of hypnotism. In a month's time "absences" disappeared under treatment, hallucinations were few and far between, rapidly passing away by mental effort, and no longer deceiving him as to their real nature. In May last, the strict watch over him having been removed some weeks before, M. reported himself as cured of "absences" and hallucinations, and of all neurasthenic symptoms.

Reverie, then, and dreams as well, are really affairs of moment. They are capable of producing marked disturbances of intellect in persons thus predisposed, who lead a life of partial or complete solitude, away from the energizing and vitalizing influence of companionship. Jeanne d'Arc listens to the voices that break the silence of her pastoral loneliness, obeys the promptings of her heart that beats responsive to all great and noble deeds, rescues France, and dies a martyr. Mahomet spends the best part of five years in a cave, wrapped in mysticism and the contemplation of things spiritual. The visions and aspirations that shaped his career for him did so in strict accordance with the man's chief characteristics. Uniting vast generalship and religious fanaticism, together with the power of ruling himself and others, Mahomet founds with the edge of the sword a great religion that claims at the present time 160,-

000,000 followers. The Frenchman, M.—fair, delicate, and artist to the finger-tips, strangely moved by color and beauty, misunderstood when a lonely, sensitive child—finds his chief delight as a man in the imaginary companionship of a charming and sympathetic woman, whom he places in an environment possible only to those who have Aladdin's lamp. Weak of caliber, he but follows out the lines of his own nature when he elects to rest in the hollow Lotusland, where the best of life appears to be

"With half-shut eyes ever to seem
Falling asleep in a half-dream."

It is a question of degree rather than kind in all who fail to remember that between dreaming and living there is a gulf fixed. Reverie, dreams, and delirium have claimed all sorts and conditions of men, from the highest to the lowest, and ruined not a few. In virtue of the possible pitiable plight into which vain imaginings may bring humanity, let us in all seriousness steal an idea from "Punch," and say to those about to dream: "Don't"!

PRIVATE VENTURES IN "COLLECTIVE INVESTIGATION."

It is in every way commendable in a practitioner to publish accounts of cases out of the ordinary run that may occur in his practice. Moreover, it often adds to the interest of the narration, and emphasizes the deductions to be legitimately made from it, if he appends to the clinical history a pithy analysis of other men's observations in similar cases. Much of the most instructive medical writing is of this sort, and we know of nothing to be said against it. The case is far different, however, when an author, not content with commenting on what has already been published, sets about a sort of "collective investigation" of his own, founded on material that he may succeed in inducing his fellow-practitioners to supply to him. This procedure has grown so common of late that it has become a veritable nuisance. Men who have given genuine thought to a subject, and have had opportunities of observing phenomena bearing upon its elucidation, are generally in no haste to spread their impressions before the profession; and they are quite right in preferring to wait until generalizations seem warranted by the stock of observations accumulated and by mature reflection on their own part. But, careful as they are not to be precipitate themselves, they are in constant danger from the assaults made on their good nature by the privateersman in "collective investigation."

This individual is usually one who is not widely known. He may be one of considerable promise, but he is decidedly not the sort of person whom one would choose to digest and filter one's observations for the public. In general, he sets about his work by preparing a circular letter, often containing a blank form for his correspondents to fill out. This he sends to everybody who, he surmises, may be inveigled into joining in the work of fitting him out with a stock in trade; and he sometimes has the additional impertinence to inclose a postage-stamp, whereby, as he imagines, he lays his correspondents under some obligation to reply to his communication. It is bad enough if his letter of inquiry is general in its terms; whoever is unwise enough to answer it finds that he must either write something exceedingly bald and unsatisfactory or else undertake a labor which, even if entered upon at his own convenience and in accordance with his own ideas of the fitness of things, would prove irksome. This he is asked to do to suit the purposes of some person who has no sort of claim upon him, but he is told that he will be given "full credit" in the intended publication—as if such credit (and we all know what it amounts to—mention of the victim's name, followed by the phrase "personal communication to the author") could in any way compensate a man for his loss of time, to say nothing of his having been tricked into making an unsatisfactory appearance before the profession. If, on the other hand, the apparent labor-saving device is adopted of furnishing him with a tabular form to fill out, the case is so much the worse, for he is then called upon to furnish such data as his persecutor thinks he can best manage, and not the sort of report that he himself would think it best to make if he were addressing the profession directly. We are quite willing to concede that it is not always by unworthy motives that those who concoct these circular letters are actuated; nevertheless, the course they pursue has an unpleasant semblance of assurance, and rarely if ever results in any substantial addition to our literature.

MINOR PARAGRAPHS.

COLLATERAL INNERVATION OF THE SKIN.

This term has been applied by R. Jacobi to a state of the cutaneous distribution of certain nerve-fibers comparable to decussation. For example, as he supposes, some of the fibers of the radial nerve are distributed to the region innervated by the median nerve, and *vice versa*. The author expounded this theory, not long ago, in the "Archiv für Psychiatrie." In a more recent article, in the "Berliner klinische Wochenschrift" (summarized in the "Centralblatt für klinische Medicin"), he gives the history of a case which he thinks shows the applicability of the theory in the explanation of a sensory phenomenon that supervened upon the spontaneous healing of the trunk of the radial and the cutaneous branches of that nerve and the median, after their division by an injury to the forearm; namely, that irritation applied to the area of the median nerve gave rise to a simultaneous sensation in that of the radial. Certain other sensory phenomena observed are explicable on the assumption of an incongruous union of the fibers in the healing process; but the one here mentioned is thought to require another explanation, and that the author looks for in his theory.

DR. JOSEPH TABER JOHNSON ON ABDOMINAL SURGERY.

The president of the faculty of the Medical Department of Georgetown University, Dr. Joseph Taber Johnson, of Washington, who is also the professor of obstetrics and gynæcology in the college, gave the introductory address to the students this year. At the request of the class, Dr. Johnson has published his address in the form of a pamphlet. After a few graceful generalities, the speaker entered upon a remarkably satisfactory historical and critical treatment of his proper subject, "Recent Advances in Abdominal Surgery." It was now generally admitted, he said, that abdominal surgery was fast becoming a department by itself, and he added this suggestive remark: "Not only do many unusual things have to be done to become a successful abdominal surgeon, but many things in the busy life of the general physician or surgeon must be left undone." One does not need to be an ultra-specialist to take this view of the matter; the statement is self-evident. Nevertheless it is well that as much knowledge of abdominal surgery as possible should be given to the rising generation of medical men, and we therefore think that Dr. Johnson was quite right to make it the subject of an introductory lecture, especially as he succeeded in putting it before his audience so simply and so clearly. Appended to the address we find a tabular statement of the author's own results in laparotomy, forming a creditable addition to our general statistics.

THE CITY BOARD OF HEALTH.

There have been gratifying indications of late of a re-awakening in the Board of Health of something of the spirit that pervaded it twenty years ago. Not the least notable of them is a communication intended for the information of the Commission on Legislation affecting Tenement and Lodging Houses, which has been published in the form of a pamphlet entitled "The Tenement-House Problem in New York." The entire contents of the pamphlet are of surpassing interest to all intelligent and public-spirited New Yorkers, but we have been particularly pleased with the closing paragraphs, in which the board explains how its effectiveness would be increased, and the dupes of "skin builders" aided in avoiding unnecessary expense, by legislation giving the board the right to file a *lis pendens* when proceedings are begun against an owner for violation of the rules governing the construction of buildings, which would be found among the accessible records when the title was searched; also how defective plumbing, with consequent waste of water, would be reduced by legislation encouraging the co-operation of the Department of Public Works with the Board of Health. These measures must, we think, commend themselves to every citizen whose interests are entitled to consideration. We wish we could add that they were on that account reasonably sure of enactment.

LANOLIN AND ŒSYPUM.

Essentially, the use of lanolin seems to be nothing new. Pliny informs us that œsypum ("the filth and sweat adherent to wool") furnished an extract which was used as a medicine, and Ovid says that it was employed by the Roman ladies to improve their complexion. Nearly two hundred years ago, a preparation termed œsipus humida figured in the pharmacy of the period, and minute directions for its preparation are to be found, according to the "Annales de la Société de médecine de Gand," in Lemery's "Pharmacopée universelle," edition of 1717. This product, the *œsipe* of the French, was employed in emollient and resolvent plasters. It is interesting to trace the changes in its name, as well as its medicinal use; the Greek masculine οἴσυπος becomes the classical Latin neuter *œsypum* and the pharmaceutical Latin feminine *œsipus*, and the modern preparation was termed *œsipus humida* because it was always liquid.

VASSAR COLLEGE AND THE HARVARD ANNEX.

These two educational institutions for women—or rather their pupils—underwent comparison lately in the light of composite photographs, which were incidentally shown by Dr. Noyes at a meeting of the New York Neurological Society. The remark was made by two of the members present that the Vassar picture showed womanliness predominant, while the Harvard picture figured an intellectual rather than a womanly being.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 20, 1887:

DISEASES.	Week ending Dec. 13.		Week ending Dec. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	16	6	14	4
Scarlet fever	127	23	128	18
Cerebro-spinal meningitis	5	5	4	2
Measles	45	2	36	4
Diphtheria	185	45	195	56
Small-pox	0	0	3	1

A Suit for Malpractice, in which $10,000 damages was claimed for alleged negligence and unskillfulness in performing a surgical operation, which was done without charge to the patient, has, after a third trial in Boston, been decided in favor of the defendant. The case has been twice appealed because of similar verdicts.

The Sloane Maternity Hospital and the Vanderbilt Clinic.—Exercises on the occasion of the opening of these adjuncts to the College of Physicians and Surgeons will be held in the lower lecture-room of the college building, No. 437 West Fifty-ninth Street, on Thursday, the 29th inst., at 3 o'clock P. M. An address will be delivered by Professor T. Gaillard Thomas. Seats will be reserved for ladies.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 11 to December 17, 1887:*

Banister, W. B., First Lieutenant and Assistant Surgeon. Ordered to proceed at once from Fort Lowell, Arizona, to Fort Wingate, New Mexico, and report to the commanding officer for duty. S. O. 128, Department of Arizona, December 1, 1887.

Harris, H. S. T., First Lieutenant and Assistant Surgeon. Ordered from Fort McIntosh to Camp Peña Colorada, Texas. S. O. 143, Department of Texas, December 12, 1887.

Clendenin, Paul, First Lieutenant and Assistant Surgeon. Ordered from Camp Peña Colorada, Texas, to Fort McIntosh, Texas. S. O. 143, Department of Texas, December 12, 1887.

Cabell, J. M., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Niobrara, Nebraska. S. O. 286, A. G. O., December 9, 1887.

Society Meetings for the Coming Week:

Monday, *December 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *December 27th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

Wednesday, *December 28th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society (conversational); Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society.

Thursday, *December 29th:* Cumberland, Me., County Medical Society (Portland).

OBITUARY NOTES.

C. Dixon Varley, M. D., a highly respected physician of New York, died on Wednesday, the 21st inst. Dr. Varley was a graduate of the Medical Department of the University of the City of New York of the class of 1844, and a prominent member of the alumni association of the college, of which he was for several years the treasurer.

Letters to the Editor.

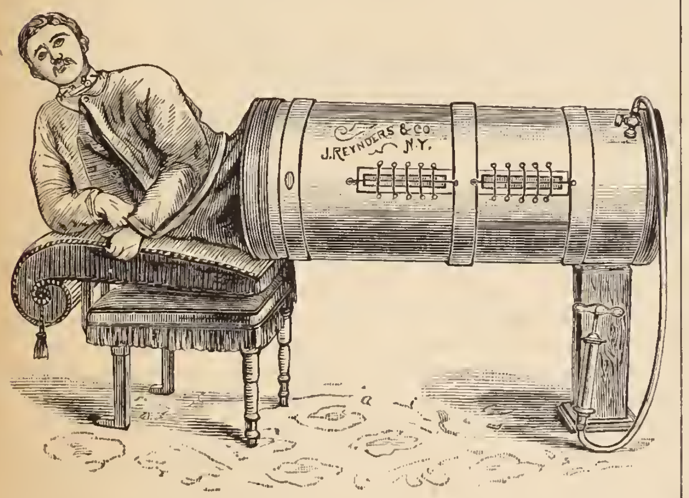
ANÆSTHETIZATION WITH VASCULAR COMPRESSION.

26 West Forty-seventh Street, New York, *December 19, 1887.*

To the Editor of the New York Medical Journal:

Sir: In the "New York Medical Journal" for October 22, 1887, I published a brief account of my endeavors to abbreviate the time necessary to place a patient under the influence of an anæsthetic. The means to this end which I advocated—to wit, compression of *both arteries and veins* at the proximal portion of the extremities—was at once effective and safe.

Nearly two months having elapsed since the publication of that communication, Dr. L. M. Sweetnam comes forward as an advocate of a totally different method of obtaining the same end—viz., compression of the *veins alone* by the application of appropriately placed ligatures to the extremities. By the physiological principles called into action in the procedure advocated by myself (arterial and venous compression) the amount of blood circulating in the cerebro-spinal axis remains unaltered and there is consequently no danger of syncope. On the other hand, *venous* compression *alone*, which is extolled by Dr. Sweetnam, and which, he says, has been used by others, acts on the totally different principle of progressive exsanguination of the cerebro-spinal axis, or, in other words, on the principle of dry-cupping. The principle involved in this mode of inducing general anæsthesia is a very old story to me. As long ago as 1880 I experimented with a large Junod's apparatus provided with an appropriate air-pump. (See the subjoined cut of this appliance taken from the appendix of my monograph on "Carotid Compression," published in March, 1882.) By the aid of this arrangement it was possible to engender venous stasis of the lower extremities while the anæsthetic was administered in the usual manner. This is precisely what I did. As soon as a partial vacuum had been produced, ether, chloroform, or nitrous-oxide gas was given to the patient, and anæsthesia usually supervened with gratifying rapidity. One day, however, while I was carrying on these researches, I produced so severe an attack of syncope in a patient that I became thoroughly alarmed for his safety. This event produced a powerful impression upon my mind, which will remain as long as life lasts. I then and there resolved never again to countenance the use of anæsthetics in conjunction with anything which savored of dry-cupping.



It must be borne in mind that, when the *veins alone* are compressed, the anæsthetic has free access through the unobstructed arteries to the blood-mass behind the ligature. Consequently all the blood in the body is contaminated; and, if the patient were to have an attack of syncope, and we were to attempt to revive him by removing the ligatures, as suggested by Dr. Sweetnam, we should merely bring new quantities of contaminated blood in contact with the patient's cardiac and respiratory centers, thus placing his life still more in jeopardy. It is necessary to think of these things where human life is at stake.

From this brief analysis it is clear that none of the objections mentioned apply to *conjoined venous and arterial* compression in the administration of anæsthetics, as advocated by myself. The inherent safety consequent upon this total sequestration and complete preservation of the blood mass (behind the ligature) from the contamination of the anæsthetic has been ably shown by Dr. David Webster in a suggestive communication to the "New York Medical Journal."

J. Leonard Corning.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

(*Concluded from page 559.*)

Constitutional Causes of Throat Affections.—Dr. S. W. Langmaid, of Boston, read a paper on this subject (see page 703).

Dr. William C. Glasgow, of St. Louis: The constitutional nature of many pathological conditions of the throat is too often ignored in the great prominence given to the local lesions. The sentiment expressed by an absent colleague, who says "the laryngologist of the future must be more the rhinologist, and the rhinologist be more the surgeon than the physician," is, in my opinion, a false sentiment. It encourages the tendency of the times to an exaggerated consideration of the local lesions, and does not give due consideration to the underlying causes, which are often strictly constitutional. I believe that such views may do harm to the true growth of laryngology. I believe there is even at the present time too much surgical interference, and I believe a more conservative course to be the true one. I agree with Dr. Langmaid in considering many of the diseases of the throat to be of constitutional origin, depending on the various diathetic conditions. The favorable action of the emetics related by Dr. Cohen shows the dependence of the laryngeal condition on a disordered condition of the digestive organs, and I believe that a more thorough consideration of possible constitutional causes will lead to a more satisfactory knowledge of diseases of the throat.

Dr. J. Solis-Cohen, of Philadelphia: There is one point which I should like to make with regard to the condition known as rheumatic sore throat. I have had my doubts at times whether the term rheumatic was correct or not. Affections which we call rheumatic are sometimes caused, as I have frequently seen, by local applications of the galvano-cautery to the pharynx and to the tonsils. That is to say, I have frequently had patients complain of pain in the trapezius muscle, for instance, from cauterization of the pharynx or the tonsil. Sometimes there will be torticollis. Sometimes they complain of pain in the ear. I have found the treatment by guaiac just as serviceable in these instances as in the treatment of amygdalitis, the result, as we suppose, of exposure to cold. Whether the cause is a nervous influence or not, I can not tell. As you all know, the spinal accessory nerve divides into two branches, one going to help form the pneumogastric and the other going to the trapezius muscle. Consequently there may be a reflex action in these cases. Certainly some of you must have observed these effects. They have occurred so frequently in my hands that I do not think the observation can be an isolated one. I always try to treat my patients constitutionally, and I do not know of anything better in this class of cases than the occasional use of a purge—say two or three times a week. You will find that in the first edition of my work, published in 1872, I spoke of a peculiar form of pharyngitis which occurs during adolescence, and which I considered the result of overfeeding. While it had not attracted any attention, I still thought it sufficiently important to devote rather more space to it than to other affections, and reprinted it in the second edition of ten years ago. I have found very little reason to modify those opinions. These cases are certainly better treated by purging and attention to the general health than by local applications.

Dr. D. B. Delavan, of New York: It has been my custom for several years in dispensary work to decline to treat a case of pharyngitis or laryngitis in the habitually intemperate. In a few cases I have persuaded the patients to give up the abuse of alcohol in view of the fact that the condition of their throats alarmed them. In the process of that reformation their local condition has improved. I think we pay too little attention in this country to the benefits of good hygienic surroundings, such as may be found at various baths abroad. The treatment pursued at many of them is extremely beneficial in a large number of cases of impaired digestion, disturbed portal circulation, and lithæmic diathesis. I have observed in gouty subjects with acute throat troubles great benefit from the administration of the salicylates. As to constipation, it is an almost constant accompaniment in many chronic conditions of the pharynx, and I have for some time been in the habit of prescribing in these cases the official compound pill of aloes and iron, one pill to be taken at bedtime with a copious draught of water.

Dr. Langmaid: My paper is founded on actual experience, but I do not wish to consume time with the narration of cases. I remember the chapter in Dr. Cohen's book referred to by him, and I also remember that I was surprised to find it there. I think Dr. Cohen might have gone farther, and have found that many so-called cases of croup in children, spasm of the glottis, would be more quickly relieved by some cathartic than in almost any other way. A little investigation would bring out the fact that the children had disordered intestinal tract. Two or three years ago a lady was brought to me with disease of the upper jaw, the supposition being that I would remove the jaw. There was nothing to indicate the cause of the disease. I will only say that the operation was not performed and that the patient is in perfect health to-day. I presume the treatment by some would have been to cut the bone away, but had it been done I do not believe the patient would be well yet, while, by taking into consideration constitutional causes, I saved the patient's jaw and my reputation.

A Foreign Body in the Larynx.—In the discussion of Dr. Langmaid's paper on this subject, Dr. F. I. Knight, of Boston, said: This case of Dr. Langmaid's was the most interesting one of foreign body which it has been my opportunity to see for a long time. My idea regarding the location of the pin is that it had worked out of its bed in the pharynx, and gone down into the larynx, entered the ventricular sinus, thence worked its way up through the ventricular band, and was found emerging from the ventricular band, pointing from before backward, as described by Dr. Langmaid.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 20, 1887.

The President, Dr. A. Jacobi, in the Chair.

Colorado Springs and Davos-Platz as Winter Health Resorts.—Dr. Clinton Wagner read a paper on this subject. Colorado Springs, he said, was located seventy-five miles south of Denver, near Pike's Peak, more than six thousand feet above the level of the sea. On the north and west it was sheltered by mountain ranges; on the south and east it was quite open. The atmosphere was so clear that one could see a distance of 130 miles without the aid of a glass. From September until the latter part of May there was no rain-fall; there was no mist, rarely frost, occasionally snow, which seldom remained longer than a day or a few days, disappearing by evaporation, or being carried before the wind or absorbed by the sandy, porous soil. The sun shone 330 days in the year. The temperature was warm and equable; during the winter the inhabitants sat on the piazzas without additional wraps. The difference between the temperature in the sun and in the shade was fifty degrees. This was due to the very free transmission of the sun's rays through the pure atmosphere. Were the surrounding air not cold and dry, the sun's rays would be intolerable. The temperature at night fell many degrees.

The most disagreeable feature of this climate was the winds. There was less wind, however, than at Davos-Platz. The author had seen many patients at Colorado Springs who had recovered from phthisis, and others were advancing toward recovery. In general, it might be said that patients should be allowed to remain at great altitudes, provided improvement in their pulmonary and general condition had already taken place. For certain patients, however, such localities were contra-indicated—those having nasal trouble, phthisical patients of a nervous and excitable temperament, and those with circulatory disturbance. But certain cases of laryngeal phthisis had recovered at Colorado Springs. The town had hotels, libraries, schools, churches, a theatre, etc. There was excellent opportunity to establish good drainage, which had not yet been done.

Compared with Davos-Platz, Switzerland, Colorado Springs possessed the following advantages: The sun shone longer (about nine hours a day, at Davos Platz about five hours a day): it was suitable for residence the entire year; at Davos-Platz the sky was often obscured, and the south wind was warm, moist, and irritating; out-of-door life was possible only to those who could take active exercise. Of late years better sanitary arrangements had been established at Davos Platz.

Dr. A. L. Loomis said that, in a paper which he had read before the American Medical Association eighteen years ago, he took the ground that the custom of sending phthisical patients to a warm climate was wrong: that it was most important for them to be in a stimulating climate—one in which they would be able, although feeble, to take a certain amount of exercise in the open air. Since that time he had studied the climatological treatment of disease perhaps as carefully as any one subject connected with medicine, and he had reached the conclusion that there was no one place *par excellence* for phthisical people. Two things were essential in any locality: First, a pure atmosphere, an aseptic atmosphere. We could not wash out lung cavities with antiseptic solutions; he doubted whether vapors could be introduced into the lungs which would destroy the causes of the disease. But if the lungs could be bathed constantly with an antiseptic air it seemed that that would be all that could be done in the way of local treatment of the disease. There were a good many things which operated to render air aseptic. Great altitude was one; but even here the soil, the number of people in the town, the foliage, etc., had to be considered. He doubted not that Colorado Springs and Davos had been aseptic, but when they became filled with large hotels and boarding-houses, where patients had to live, there they no longer breathed an aseptic air. The benefits to be derived from these places would diminish as the population increased, until finally they would be abandoned for newer health resorts. The second necessary element was a climate which conduced to out-of-door life. It was folly to send those suffering from phthisis to Colorado Springs or Davos-Platz to spend twenty of the twenty-four hours in the hotel. If they were not able to take out-of-door exercise they should not be sent to a health resort. They should remain at home and receive home care. That, he thought, was the reason why patients in the first stage of phthisis were benefited by climatic treatment. Those who were improved in a great altitude should not return to their former homes for three or four years, although apparently cured. He did not think it was necessary to send persons with phthisis so far as Colorado Springs or Davos.

Dr. Rufus P. Lincoln had visited Colorado Springs and Davos only during the summer, but he had watched patients who had been at those places, and had become convinced that Colorado Springs possessed advantages over Davos. The sun shone nearly twice as long daily at Colorado Springs, and consequently this health-giving element in the atmosphere was nearly doubled; the moisture was much less; and the soil was better suited to effective drainage. As to the wind, it traveled much more slowly at Colorado Springs than at New York. The sun failed to shine, on an average, only three days in the year at Colorado Springs. Dr. Holly, a resident physician there, had changed his mind regarding the effect of this climate upon patients with laryngeal phthisis; he now advised such patients to remain, and undergo local treatment of the laryngeal trouble. The speaker thought that the dry air and the wind caused a dry condition and more or less irritation in the healthy nasal mucous membrane of some persons, but this effect was beneficial in those suffering from nasal catarrh with excessive secretion.

Dr. Beverley Robinson sent a letter in which he stated that more of his patients in the first stage of phthisis had regained their health in Colorado than at any other health resort.

Dr. Kreschmar, of Brooklyn, gave Bremer the credit of having first called attention to the advantage of great altitudes in phthisis, having written on the subject in 1852, since which time his sanitarium had received about thirteen thousand phthisical patients, histories of whom had been kept. Only about one patient died of phthisis in five years. The speaker did not believe that any one place possessed all the advantages for consumptives. The most important elements were immunity from phthisis among the natives, absence of moisture, plenty of sunshine, no rapid change of temperature, absence of dust, accessibility, parks, distance from large cities, supervision of the patient by a careful physician, the best of nourishment, together with the moderate use of wine, and a perfect hygienic arrangement of the dwellings. The most important of these were present in either Davos or Colorado Springs. The greatest objection to Davos was the mixture of pleasure-seekers and patients. The latter were not strong enough morally to resist injurious customs established by the former. Davos was almost an ideal place as a prophylactic against phthisis, and it had the advantage of educational institutions for young men and ladies.

The President alluded to statistics going to show that altitude would not give immunity from phthisis, for persons at work in factories, and living in crowded quarters, were subject to phthisis at great altitudes as well as elsewhere. But farmers, and those living out of doors, remained free from pulmonary phthisis. An element going to make an atmosphere advantageous to the phthisical, not mentioned by the speakers, was ozone, and this existed where there was plenty of sunlight, on the ocean, at the sea-side, and in evergreen forests.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 17, 1887.

The President, Dr. William Wallace, in the Chair;
Dr. C. E. De la Vergne, Secretary.

On the Treatment of Puerperal Convulsions.—Dr. W. B. Chase read a paper on this subject (see page 709).

Dr. Charles Jewett remarked that if he understood the author of the paper correctly, he had included under the term puerperal convulsions some kinds of convulsion that, in the opinion of the speaker, should not be so classified. In other words, not every convulsion in childbed was a childbed convulsion. That was to say, such convulsions as those due to hysteria or to epilepsy or apoplexy should not be so classed, but only those which were due to childbed conditions. With reference to the ætiology of puerperal eclampsia, nothing conclusive could, he thought, be said at the present time. The ætiology of puerperal eclampsia was not fully settled. This was quite apparent in reading the authorities on the subject. Lusk, whose teachings had deservedly exerted so great an influence in this country, had taken a firm stand upon the uræmic theory. This theory, however, had not yet been established. Professor Schroeder, who represented a fair share of the best German opinion upon this matter, stated, in the last edition of his work [1886], that uræmic convulsions and eclampsia were not identical. French and English opinions were equally unsettled. The experience of most of us would no doubt seem to show that in the main uræmia furnished the background of puerperal convulsions. No other theory so well explained the facts in the vast majority of cases. True, Ingerslev and others had collected large numbers of cases in which an autopsy—after death by puerperal eclampsia—showed the kidneys to be entirely healthy—at least, to present no structural lesion. This, however, did not necessarily establish the fact that the eclampsia in those cases was not uræmic, for, as believed by many, the uræmia often might be the result merely of acute spasm of the vessels of the kidneys. And this was the more probable when we bore in mind the intimate nervous relation between the uterus and the renal organs. One theory indorsed by Schroeder, and a very important one in its practical bearings, was this: He adopted the theory that the immediate cause of the eclamptic seizure was cerebral anæmia due to spasm of the cerebral vessels. Without undertaking to say what was the cause of this vaso-motor spasm, this was valuable in its practical bearings, for it taught that the treatment for eclampsia was to be found in measures that tended to relieve the vaso-motor spasm, and this was in keeping entirely with what was known of the value of the different remedies in vogue. This led to the consideration of the remedies that were useful. Certainly one of the first and foremost was chloroform. This was the readiest method of treatment and one of the most effective. The first thing to do, finding a patient in puerperal convulsions, was to put her under the influence of chloroform. This immediately overcame the trouble and provided time for the administration and for the effect of other measures. And yet this method of treatment was unsuitable for long-continued use. Chloroform narcosis, if long continued, was of itself injurious: and other measures must be substituted after a time. Two very good ones were those which had been mentioned by the author—chloral and the bromides. Many other drug measures had been advocated, such as nitrite of amyl, nitroglycerin, nitrite of sodium, etc. As to venesection, while it had been condemned as an unphilosophical mode of treatment, nevertheless, clinically, its results were fairly good. But one of the most useful measures in the therapy of convulsions was another drug also alluded to in the paper, veratrum viride, the Brooklyn treatment, as it had been called, and a treatment which Brooklyn practice ought to foster. This was one of the most reliable arterial relaxants and was one with which the speaker had had a considerable experience. He had used it in a large number of cases with a special view to determine its value. The method was well known. It consisted in the employment of the drug until the pulse was reduced to something below sixty, and the eclamptic convulsion was said never to occur while the pulse was below that number. It certainly never had occurred in his experience. He recalled one case in which it had been impossible to reduce the pulse so low, but that patient had been almost moribund after a large number of convulsions. In all cases in which the drug had been administered before six or eight convulsions had taken place, the reduction of the pulse had been very prompt—within twenty to thirty minutes—and the results very satisfactory. The dose that he had administered had been ten to twenty minims of Squibb's fluid extract. He had commenced with that and had used no other preparations, with one or two exceptions. He preferred decidedly to give it by the hypodermic method. By the stomach its action was much slower, and, moreover, it was quite uncertain whether it would be absorbed at all; so that the method of administration under the skin was, the speaker thought, the only one that should be advised. Ten or twenty minims might be given for the first dose, the subsequent doses being determined by the pulse, enough being used to maintain the pulse below sixty. There was a strong prejudice on the part of some practitioners against the use of this drug. The patient went into a condition of collapse sometimes, or now and then one was seized with distressing vomiting at the end of half an hour or more. And yet this collapse was not so bad as it seemed. He had never known any injury to result from the use of the drug to the extent of inducing collapse; and, as the author of the paper had said, it was readily overcome by stimulants. The usual indications, moreover, which had been laid down for the use of veratrum viride as distinguished from other measures had always been disregarded by the speaker. It had generally been supposed that the use of veratrum should be confined to those cases in which the pulse was hard and bounding. And yet he had used it without regard to the character of the pulse except its frequency, and he had even used it in the uræmic convulsions of children after scarlet fever. He was persuaded that in more than one case patients of that class had finally recovered who would have died but for the aid derived from this drug, although this was not the only treatment. It was worthy of mention that Winckel relied largely on diaphoresis—by the hot bath—in eclampsia. Cathartics, too, were also important and rarely to be omitted.

Dr. S. Sherwell recalled a case to which he had been called in 1871, shortly after Dr. Fearn's first paper had been read. It had been one of severe puerperal convulsions occurring in a robust, plethoric young woman. Remembering Dr. Fearn's paper, he had administered eight minims of veratrum hypodermically, the first instance, he believed, of its use in that manner. The patient, who was at full term, did well, as did also the child. As the patient had, however, been bled to the extent of a pint and a half, had had elaterium administered, and been given a hot-air bath, the speaker was in doubt as to which element of treatment had had the most effect.

Dr. H. Fearn said that he had seen cases of asthmatics in which the pulse had been reduced to 38 in the minute by the use of a drachm of the tincture of veratrum viride. Dr. Chase had not stated the rule for the administration of veratrum exactly as the speaker had given it in 1869. He commended the veratrum treatment as strongly as ever, and he did not know that he had ever seen a case in which the patient had died as the result of the treatment. He sometimes employed chloroform, but it was only as a temporary resort, until the patient could be brought under the influence of veratrum. In its administration he was governed by the character of the case, some cases requiring from fifteen minims to a drachm of the tincture. He had seen cases in which the smaller dose, frequently repeated, had had the effect of controlling the convulsions. He had used veratrum many years, not only in the class of convulsions under consideration, but also in those occurring in children, and he considered it a much safer remedy than chloral, as it seemed to him more easy to regulate in its effects. He did not think that it was good for everything, but its influence over the circulation had the desired effect on the kidneys. He had frequently observed that after its administration the kidneys acted in a very short time, when they had not done so for twenty-four hours previously. In regard to the preliminary treatment, he considered that we had a good agent in the bitartrate of potassium, not only from its action on the kidneys, but by its effects as a laxative, especially during the last months of pregnancy. He could recall several cases in which convulsions would, probably, have occurred if it had not been used. He thought that chloroform was useful in the first stages when a speedy action was desired, but that its effect was not so decided as that of veratrum in preventing a recurrence of the convulsions.

Book Notices.

On the Operative Surgery of Malignant Disease. By Henry T. Butlin, F. R. C. S., Assistant Surgeon and Demonstrator of Surgery, St. Bartholomew's Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1887. Pp. viii–408. [Price, $4.]

For years Mr. Butlin has been making the pathological and clinical history of malignant diseases a study. Some of the results of his work are already before the profession, and the present volume adds another valuable contribution to our knowledge of this terrible disease.

The scope of the work is expressed by the author in his preface, where he says that he hopes that the volume may attain one or other or all of the following ends: "1. Indicate the class of cases and parts of the body which may be treated by operative means with the best prospect of success. 2. Encourage the performance of operations in suitable cases at the earliest possible period. 3. Discourage the repetition of useless and dangerous operations. 4. Raise the question of the propriety of the removal of entire organs for the cure of cancers of limited extent." He further states that "the general plan of each chapter of this work is to give, first, a short outline of the usual course of the malignant diseases of the part of the body of which it treats, without entering on pathological questions further than is absolutely necessary. The best methods of operating are then described; and, when the operation has been practiced in many instances and successfully, by an individual surgeon, his method is described as far as possible in his own words. The results are then considered—first, with a view to discover how far the operations have been dangerous to life; next, how far they have been successful in permanently ridding the patient of the disease; and, last, in a few of the sections, how far patients who have not been permanently relieved have nevertheless been benefited by operations." After an introductory chapter, malignant disease affecting the muscles, the bones, the lymphatic glands, and the spleen is considered; then cancer of the head and face, the mouth, the throat and neck, the alimentary canal, the urinary organs, the male genital organs, and the female genital organs. Space will not allow of an extended notice of any of these interesting chapters. The volume is the result of an immense amount of labor, and is filled with extremely useful and valuable information. It is a book that deals with *results*, and we know of no work that covers the same ground in so thorough a manner. We can not speak too warmly in its praise. It will have an influence on the operative treatment of malignant disease in that it will aid surgeons in discerning cases in which relief may be expected from operations, and at the same time point out the hopelessness of operating in other cases.

The Physician's Visiting-List (Lindsay & Blakiston's) for 1888. Philadelphia: P. Blakiston, Son, & Co.
The "Medical World" Visiting-List. Philadelphia: The "Medical World."

THE first of these pocket-books is so well known that little more than an announcement of its issue seems to be called for at our hands. Its tasteful appearance and handy arrangement are maintained, and it deservedly holds a high place among publications of its class.

The "Medical World's" publication differs from all others of the sort with which we are acquainted in the fact that it consists of a cover with a number of removable books, one for each month. This makes it far less bulky to carry—an important consideration with the practitioner. It is a pocket account-book pure and simple, without the miscellaneous information given in most of the lists.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of Obstetrics and Gynæcology. Volume Five. Gynæcological Diagnosis, General Gynæcological Therapeusis. By R. Chrobak, M. D., Professor of Gynæcology at the University of Vienna. Electricity in Gynæcology and Obstetrics. By Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital. With One Hundred and Sixty-five Wood Engravings. Pp. v–3 to 390. The same. Volume Eight. Diseases of the Ovaries. By Dr. R. Olshausen, Professor of Obstetrics and Gynæcology at the University of Halle. With Thirty-six Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. Pp. v–414. The same. Volume Eleven. Sterility: Developmental Anomalies of the Uterus. By P. Müller, M. D., Professor of Obstetrics and Gynæcology at the University of Berne. And, The Menopause. By E. Börner, M. D., Professor of Obstetrics and Gynæcology at the University of Graz. With Fifty Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. Pp. v–3 to 383. The same. Volume Twelve. Diseases of the Tubes, Ligaments, Pelvic Peritonæum, and Pelvic Cellular Tissue; Extra-uterine Pregnancy. By L. Bandl, M. D., Professor of Obstetrics and Gynæcology at the University of Prague. And, Diseases of the External Female Genitals; Lacerations of the Perinæum. By P. Zweifel, M. D., Professor of Obstetrics and Gynæcology at the University of Erlangen. With One Chromo-lithograph Plate and Eighty-eight Fine Wood Engravings. Edited by Egbert H. Grandin, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. Pp. iv–3 to 366. New York: William Wood & Co., 1887.

Practical Microscopy. A Course of Normal Histology for Students and Practitioners of Medicine. By Maurice N. Miller, M. D., Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Illustrated with One Hundred and Twenty-six Photographical Reproductions of the Author's Pen Drawings. New York: William Wood & Co., 1887. Pp. xv–217.

An Index of Materia Medica, with Prescription-writing, including Practical Exercises. By Charles H. May, M. D., Instructor in Ophthalmology, New York Polyclinic, and Charles F. Mason, M. D., Assistant Surgeon, U. S. Army. New York: William Wood & Co., 1887. Pp. vi–267.

Bericht über die neunzehnte Versammlung der ophthalmologischen Gesellschaft. Heidelberg, 1887. Redigirt durch F. C. Donders, W. Hess, u. W. Zehender. [Beilageheft zu den "Klinischen Monatsblättern für Augenheilkunde."] Mit zwei lithographirten Tafeln. Stuttgart: Ferdinand Enke, 1887. Pp. 228.

An Introduction to the Study of the Influence of Diet in the Production and Treatment of Skin Diseases. By James C. White, M. D., Professor of Dermatology, Harvard University. Read at the Eleventh Annual Meeting of the American Dermatological Association. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

L'iodisme. Par Elisabeth N. Bradley, Docteur en médecine de la Faculté de Paris; Membre de la Société zoologique de Paris. Paris: G. Steinheil, 1887. Pp. iv–168.

The Throat and its Diseases, including Associated Affections of the Nose and Ear. With One Hundred and Twenty Illustrations in Color and Two Hundred Engravings. Designed and executed by the Author, Lennox Browne, F. R. C. S. E., Senior Surgeon to the Central London Throat and Ear Hospital, etc. Second Edition, rewritten and enlarged. Philadelphia: Lea Brothers & Co., 1887. Pp. xviii–614. [Price, $6.]

The Physician's Visiting List (Lindsay & Blakiston's) for 1888. Thirty-seventh Year of its Publication. Philadelphia: P. Blakiston, Son, & Co.

Precocious Gummata. By R. W. Taylor, M. D., Surgeon to Charity Hospital, New York. [Reprinted from the "American Journal of the Medical Sciences."]

Recent Advances in the Treatment of Pulmonary Consumption. A Paper read before the Medical Society of the State of Pennsylvania, at Bedford Springs, Pa., June 30, 1887. By Solomon Solis-Cohen, M. D., Consulting Physician to the Jewish Hospital, Philadelphia, etc. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

BY GEORGE THOMAS JACKSON, M. D.

Methods for the Improvement or Hindering of Cicatricial Deformities.—Lassar describes in the "Berliner klinische Wochenschrift," No. 37, 1887, his method for preventing ugly and deforming cicatrizations, and for removing those that already exist. His article is fully illustrated both with clinical histories and photographs of cases that he has operated upon. He believes that success depends upon lengthening the time of healing of a wound. In cases of burns, or where there has been a fresh loss of substance from accident or operation—such as scraping with the sharp spoon—his method of procedure is the following: First he puts on an iodoform or sublimate dressing. After a few days he carefully removes the same, and washes away by irrigation the fine epithelial film which is creeping over the wound surface. If any of this resists the water, it will be that which is along the edge of the wound. This must be removed by a fine knife or curette. The granulations being thus flattened down, the surface of the wound is to be penciled with a solution of silver nitrate, washed off with a carbolic or sublimate solution, and covered with loose sublimate gauze. Generally this procedure should be carried out once or twice a week. If small islands of cicatricial connective tissue form, they are to be removed. Thus the natural process of healing is entirely prevented, and the epidermis at the edges will have time and opportunity to grow over the wound, and supply in large measure the defect left by the loss of the skin of the part. The time required for this manner of healing varies much in different individuals. It proceeds most rapidly in regions well supplied with hair-follicles or sebaceous glands.

Erysipeloid.—By this term Rosenbach ("Archiv f. klin. Chir.") designates erysipelas chronicum, or erythema migrans, a purely local process, attended with some burning sensation, but without constitutional symptoms. It is an infectious disease, originating in a wound from contact with some dead animal substance already in process of putrefaction, but is never directly contagious from one person to another. It affects chiefly those who have to do with dead animals—for instance, cooks, butchers, fish-mongers, and merchants who handle cheese and smoked fish. It occurs mostly on the fingers. From the point of inoculation the inflammation spreads as a dark-red, often livid swelling, with sharp border. It proceeds slowly, creeping along over the affected region without special pain, and stops spontaneously after one to three weeks' duration, the part that was first attacked becoming pale. All then returns to the normal condition. The disease depends upon a special form of microbe, the exact nature of which is not determined. It is best cultivated upon gelatin. Inoculations with pure cultivations produce the disease.

Erythema.—In an exceedingly interesting study upon erythemas, Dr. Polotebnoff gives us ("Monatshft. f. prakt. Dermat.," Ergänzungs-Heft ii) a description of their course, ætiology, and treatment, and a *résumé* of the literature of the subject. He thinks it a mistake to separate erythemas into hyperæmic and exudative forms, and that whether we have a simple hyperæmia or polymorphous erythema, with papules, tubercles, etc., depends solely upon the amount and continuance of the exciting cause. Nor does he concede to erythema nodosum the right to an independent position, but regards it as only a pronounced form of erythema exsudativum. Often a papule will change into a node, and nodes will appear alongside of other forms of erythema. He regards all erythemas as forming a single disease—inflammatory erythema. Many causal factors have been advanced to account for the disease—such as certain foods, chlorosis, atmospheric and telluric influences, irritations from the side of the genito-urinary organs, disease of the liver and kidneys, tuberculosis, rheumatism, syphilis, pyæmia and septicæmia, angeioneuroses, and external irritants. Our author allows the possibility of tainted food causing erythema; he holds that chlorosis is not a disease in itself, and therefore can not cause an erythema; he regards telluric-atmospheric influences as active ætiological factors in some cases; he has seen erythemas accompany pregnancy, follow parturition, and precede menstruation; he believes that irritations from the side of the genito-urinary organs may produce erythemas by reflex nervous action; he has met with erythema multiforme in connection with Bright's disease and icterus; at present he can not trace any connection between tuberculosis of the lungs and erythema, but has seen the occurrence of the latter with basilar meningitis of tubercular origin; he denies that rheumatism *per se* will cause an erythema in the majority of cases, but grants that an acute rheumatism of the joints may give rise to it as part of a general infectious disease; in one case he saw an erythema papulatum et vesiculosum fade away and give place to syphilodermata, and teaches that pure angioneuroses may cause erythemas, but all erythemas are certainly not due to them.

The author makes the following varieties of erythema: 1. That arising from external irritation, the erythema being restricted to the irritated region. 2. Reflex forms which may arise either from an external and local irritation which spreads beyond the irritated region and may involve the whole body (as a universal erythema from painting a knee with iodine), or from irritation of some internal or other organ. 3. Central erythema, from irritation of the nervous centers—as from tuberculosis, possibly from drugs, and with renal diseases. 4. Infection erythemas, which appear with any infectious disease. Prodromal symptoms are present excepting in central and reflex erythemas and slightly developed cases. These are such as a feeling of lassitude, dullness of intellect, some loss of appetite, disturbed sleep, and nervousness. In nearly all cases there is a slight rise of temperature. After one to fourteen days of prodromata the erythema develops. The gravity and duration of these prodromal symptoms are the same whether the erythema assumes the papular, nodose, or any other particular form. The erythema lasts from a few hours to many days in spite of treatment. During its continuance the symptoms of the prodromal stage continue, and burning, itching, and the like sensations, of greater or less intensity, are sometimes added to them, excepting in erythema nodosum. The mucous membranes are not infrequently involved in the erythematous process, only in the nodose form they are seldom attacked. This gives rise to pain in eating, loss of appetite, vomiting, icterus, constipation or diarrhœa, and catarrhal inflammation of the conjunctiva and air-passages. Pleurisy, croupous pneumonia, endocarditis, enlargement of the spleen and liver, renal disorders, swelling of the lymphatics and their glands, epistaxis, and critical sweating are sometimes observed as parts of the disease. Only such cases as run an acute and typical course—that is, have marked prodromal symptoms, last ten to twenty days, and do not relapse—are complicated by diseases of the internal organs. With the outbreak of the exanthem many of the complications may disappear.

Sometimes erythema occurs epidemically, and in one epidemic in Paris in 1828 it received the name of erythema acrodynia. This was marked by loss of appetite, vomiting, colic, constipation or diarrhœa, great muscular weakness, specially in the hands and feet, and pain in the palms and soles with thickening of the epidermis. In some cases the skin was black. The thickened epidermis shed itself in large pieces. The disease attacked the palms and soles principally, but was met with also upon the abdomen, chest, axillæ, and under the mammæ. There was fever in some cases, and also headache. Our author reports a case of erythema attacking the hands and feet in which the whole epidermis of soles and palms was shed entire. Other epidemics of erythema have been reported from time to time, but are to be regarded rather as erythema accompanying infectious diseases. In fact, erythema may accompany any infectious disease, in which cases it is not a disease *sui generis*. In most cases it is a general disease, implicating the whole organism. Most erythemas have symptoms corresponding to those of any infectious disease occurring at the time. They occur most frequently in spring and fall, and attack most often young men and women. It is probable that, instead of regarding erythema as an independent infectious disease, we should look at it as a symptom of many infectious diseases, and speak not of its prodromes and complications, but of the prodromes and complications of the infectious disease itself.

Erythemas have been known to last many years in spite of treatment. Our author, contrary to the teaching of Hebra, has seldom observed erythema multiforme appear first on the backs of the hands. Pemphigus acutus is a form of erythema. It has nearly the same symptoms as erythema; in most cases of so-called acute pemphigus various forms of erythema are present; its blebs are only the highest grade of vesicles, as the nodes of erythema nodosum are only the highest grade of papules; that its blebs appear upon sound skin is only due to a greater degree of irritation and to individual peculiarity. [The whole of this able treatise should be read. The foregoing is but an outline of the great amount of information contained in the pamphlet.—Ed.]

Pityriasis Rosea of Gibert.—This disease is the same as the pityriasis maculata et circinata of Duhring. Brocq gives us here ("Annâles de derm. et de syph.") a study of the primitive lesion of the disease. It begins most often on the trunk, particularly at the level of the waistband, anteriorly and a little to one side, and upon the front of the chest, a little above the breasts; it may also occur upon the sides of the neck, and probably on the arms. It increases slowly at its edges while fading in the center, and may attain a size of two or more centimetres in diameter. It is more or less oval in shape, and may be circular. It either gives rise to no subjective symptoms, or causes some itching. It remains alone for some four or five days, and then suddenly many other lesions appear simultaneously, constituting the secondary eruption. These generally are smaller than the primitive plaque. The latter, after some days or weeks, fades away or loses its identity. It is not to be found in every case that presents the secondary eruption. The disease may be parasitic, but the parasite is not the trichophyton tonsurans.

Treatment of Psoriasis.—Vidal ("Jour. de méd. et de chir.") believes that the oil of cade is the most efficacious remedy for psoriasis, and employs the following formula:

Glycerole of starch	100;	
Green soap	5;	
Oil of cade	100.	M.

The patient is directed to rub this in every morning, sleep in a flannel gown, and wash the medicament off in the morning.

Treatment of Pruritus Senilis.—For the treatment of this obstinate affection Machiavelli recommends ("Gaz. med. ital.") external remedies as most efficacious. As general measures, baths medicated with sulphate of potassium, and the avoidance of all excess in diet. The patient must abstain from scratching, and when a paroxysm of itching comes on, he should dab on the pruriginous spots a one- to two-per-cent. solution of carbolic acid in water. If papules appear and the pruritus is worse at night, cloths soaked with the same solution are to be bound on. An itching scrotum is to be worn in a suspensory bandage enveloped in absorbent cotton. In persistent itching, specially of the female genitals, repeated bathing with the following—

Carbolate of sodium	25 grammes;	
Cologne-water	75 "	
Glycerin	100 "	
Water	300 "	M.

—will be useful, especially if followed by compresses soaked in the following:

Distilled water	300 grammes;	
Alcohol	100 "	
Hydrochloride of cocaine	75 centigrammes.	M.

When the patient can not resist the impulse to scratch and does scratch unconsciously at night, the parts are to be painted with

Ammoniate of mercury	1 gramme;	
Oxide of zinc	4 grammes;	
White vaseline	40 "	
Cocaine	25 centigrammes.	M.

Treatment of Pruritus Vulvæ.—Simson recommends ("Lancet") for this annoying affection the application at night to the vulva of cocaine, 15 gr.; aquæ dest., q. s.; lanolin, ℥ ss., and bathing the parts in the morning with lotio hydrarg. nigra.

Pruritus Cutaneus cured by Salicylate of Sodium.—Icard ("Gaz. des hôp.") reports a case of general pruritus of eight months' duration which was cured after taking forty-five grains of salicylate of sodium for two days. The case had not yielded to arsenic, bromide of potassium, atropine, etc.

Pemphigus Chronicus.—Dähnhardt, of Kiel ("Deutsche med. Woch."), has found in the blebs of chronic pemphigus, diplococci. These he succeeded in cultivating upon agar-agar. The same cocci were found by him in the blood of the patient. Attempts at inoculation upon guinea-pigs and rabbits were negative.

The Question of the Contagiousness of Alopecia Areata.—Thibierge has collected a large number of cases of apparent contagion of alopecia areata and contributes to the "Annales de dermatologie et de syphiligraphie" an elaborate article upon the question of the contagiousness of the disease. [It is a notable fact that all those observers, with one or two exceptions, who are quoted as reporting instances of the contagiousness of the disease are Frenchmen.] These cases tend to show that the disease sometimes attacks a great number of subjects living together in school or barracks; from the school or barrack the disease may be carried and set up other foci of contagion. The author believes that the disease is both contagious and parasitic, though he grants that the contagiousness is much less than that of tricophytosis, and that the parasite has not yet been found. He believes, further, that certain cases of alopecia areata are of nervous origin, and that in course of time we shall learn to distinguish cases of this sort from those of parasitic origin.

Mycosis Fungoides and its Relations to other Similar Forms of Disease.—From a study of seven personal cases, Kaposi ("Wien. med. Woch.") is led to believe that there are at least three forms under which this disease may present itself. In the first form it develops from erythematous and eczematous patches. These are scaly, sharply defined, at first pale, afterward red, in size varying from that of a ten-cent piece to the palm of the hand, and located for the most part upon the trunk and upper extremities. This stage corresponds to the first stage of Bazin and Vidal. This stage may last many months or years, the patches spreading peripherally and sometimes clearing up in the center to form rings. Sometimes they become moist like eczema madidans. Itching may or may not be present. After a while infiltration takes place; the edge becomes raised, and the surface of the patch becomes uneven and covered with papules of lentil to bean size. This is the second stage, corresponding to the *période lichénoïde* of Bazin. Here and there, either on the surface of the patch or in part of the edge, little hillocks and bunches appear separated by furrows. These changes, once begun, take place rapidly. In places, instead of the development of raised places, a sinking-in takes place and a bluish-brown spot appears. New eczematous patches develop and undergo the same changes. Now the third stage begins, which is marked by the appearance of fungous tumors. These develop from the previous tubercles or spring up in previously normal skin. These may be as large as a lemon, bright or bluish red, smooth, often pedunculated, of soft, elastic consistence, and painless. They are most frequent on the trunk and upper extremities, then on the scalp and face. They have been seen on the pharynx and vaginal wall. They come and go within a few days. Finally, the stage of ulceration sets in, and the patient becomes cachectic and dies.

The second form of development begins with the appearance of flat, scarcely raised, finger-nail to silver-dollar sized, pale-red or yellowish-white, hard macules, without antecedent eczematous lesions, and itching. These are more common on the trunk at first. After some months there takes place a thickening of the corium similar to scleroderma, of blue-red color, increased luster, and markedly hard consistence. These have at times a central depression so that they appear ring-shaped. In course of time the lesions advance toward each other and form an irregular network. They may entirely disappear, leaving either no trace, or an atrophic spot. After months or years the stage of fungous tumors begins and the further course is the same as in the previously described form. At times these two forms occur together.

In the third form the fungous tumors develop upon the sound skin.

In no case do fever or other disturbances of the general health accompany the development of the tumors. Only in the ulcerative stage, or when a complication from the side of the lungs or otherwise arises, do constitutional symptoms show themselves. As an exception, marasmus and death may appear in the infiltration stage, or even in the eczematous stage.

Kaposi uses the term "mykosis fungoides" only on account of its general acceptance, but believes the disease to be a form of sarcoma cutis. He questions if the eczematous appearances met with in some of the cases may not be but predisposing moments for the development of sarcoma. The form of sarcoma assumed in this disease is mostly that of "*sarcoma globocellulare.*"

Leprosy.—Besnier holds ("Gaz. hebdom. de méd. et de chir.") that leprosy is a specific disease of the human race alone, and always depends upon a determined bacillus for its propagation; that it is both hereditary and inoculable, though the tendency to transmission by heredity is less pronounced than it has been thought to be.

Micro-organisms of the Normal Male Urethra and Normal Urine, together with those in the Urine of Acute Bright's Disease.—Lustgarten and Mannaberg have rendered an important service by examining the secretions and cells of the normal urethra, as well as the urine of healthy individuals and those with Bright's disease, in order to determine what micro-organisms may be present in them ("Vrtljsschr. f. Derm. u. Syph."). Their findings will serve to put other microscopists on their guard, and prevent them from regarding as pathological and of grave import the presence of certain bacilli and cocci normally present. The investigations seem to have been made under proper precautions, and to have been carried out with great care. The contents of the urethræ of various individuals corresponded very closely with each other, and were the following: Large and small flat cells with dark-colored nuclei from the fossa navicularis, and succulent round cells from the deeper parts, which often were distinguished with difficulty from leucocytes.

Besides these cells there were a great variety of bacteria partly lying free and partly in the cells. The following forms could be distinguished: 1. Very long, slender threads. 2. Bacilli of the size and form of smegma bacilli, most of them bearing spores. 3. Short, plump bacilli, one end of which were swelled into a knob, the other end tapering, with a clear space in the middle of the body of many of them. These occurred in pairs, either parallel to each other or at an acute angle, and often they formed colonies. 4. Sharply contoured delicate bacilli, of about the size of lepra bacilli, but also bowed or comma-like. 5. A very fine, completely round coccus, which most often lay packed in zooglea. 6. Diplococci composed of round members. 7. Diplococci whose members were more oval and already approaching the bacillus form. These lay with their small sides toward each other. 8. Diplococci whose members were flattened, and which lay with their broad sides close to each other; they were often very plump and large. 9. Diplococci with a small indentation on the sides of the members where they faced each other. These bore a strong resemblance to gonococci. 10. Streptococci formed of round members; their single members were often closely bound together two by two; their chains never had more than fifteen members. The cocci were more frequently met with than the bacilli. The latter were most frequent in individuals with an unclean preputial sac rich in smegma. The bacteria could be distinguished with certainty only in the bodies of the cells. The cells often contained only single bacteria, mostly at their periphery and parallel to it; or they contained little heaps of various bacteria, which concentrated at one pole; or they were completely filled with bacteria. The bacilli were relatively more frequent outside of the cells, while the streptococci were more often inside of the cells.

Of these forms the most important are those resembling if not identical with the smegma bacillus, and those in the form of gonococci. The smegma bacilli are not to be distinguished from the tubercle and syphilis bacilli either in form or reaction to staining fluids. Matterstock and others have noted this and cautioned observers to always cleanse the preputial sac carefully, so that the urine to be examined for the tubercle bacillus may not become contaminated with the smegma bacillus in its passage. But here we have the same bacillus from the deeper parts of the urethra. The diplococci of the form of gonococci could not be distinguished from the latter either by the microscope or their reaction to coloring agents. Cultivations upon agar-agar were made of the various bacteria. They succeeded in making pure cultivations of the more known cocci, the *Staphylococcus aureus* and the yellowish-white diplococcus of elytritis as described by Bumm. Of the bacilli only No. 3 was obtained in pure culture. Eight other forms of cocci were cultivated, full descriptions of which are given, and will be of interest to those engaged in bacteriological investigations.

The authors next turned their attention to the examination of normal urine. Up to the present time the opinion has been that there were no micro-organisms in the normal urine. To determine the question the urine of the healthy persons was examined, every precaution being exercised to avoid the entrance of accidental bacteria into the specimens to be examined. From the specimens fifteen cultivations were made on agar-agar, and the following bacteria were developed: The *Streptococcus giganteus urethræ*, seven times; the *Micrococcus subflavus*, once; the short club-shaped bacillus, four times; various urethral diplococci, twenty-two times. It seemed that the urine was not the proper element for these bacteria to live in, for, after the specimens had been kept for a time, they all disappeared. In the urine of several patients suffering with acute Bright's disease round streptococci were found. In one case they disappeared from time to time, to appear again with every exacerbation of the disease. They are regarded as holding an ætiological relation with acute Bright's disease, and also probably with chronic parenchymatous nephritis. In the urine of one of the patients a diplococcus was found which was nearly if not quite identical with the gonococcus, which on that account was named the *pseudogonococcus*.

Therapeutic Value of the more recent Additions to the Genitourinary Pharmacopœia.—Fenwick has been experimenting with a number of new remedies for genito-urinary diseases, and reports ("Lancet") upon them in this paper as follows:

Kola (*Sterculia acuminata*) contains 2·3 per cent. of caffeine, and also theobromine. In the form of chocolate, useful in tertiary syphilis where large doses of potassium iodide have to be given. Administered as a paste—kolatina—one to two drachms in a teacupful of water, or as stick kola-chocolate in same dose.

Salix niger (black willow).—A sexual sedative of decided value in ovarian hyperæsthesia, prostatorrhœa, spermatorrhœa, excessive seminal emissions, and enforced continence. Dose, half a drachm to a drachm.

Lycopodium clavatum.—Of value in frequent micturition, irritable bladder, and cystospasmus, where not dependent upon actual disease or foreign body. Also in spasmodic retention in children. Dose of the tincture, fifteen minims to a drachm.

Kava-Kava (*Piper methysticum*).—Of benefit in pyelitis, cystitis, and urethritis. Dose of the fluid extract, half a drachm to a drachm, on a full stomach.

Stigmata maidis (corn-silk).—Of great value in pyelitis and renal colic, and chronic and subacute cystitis. Dose of the fresh infusion, a wineglassful; of the extract, half a drachm to a drachm.

Papaw, *Papayotin*, *Papaine* (*Carica papaya*).—Of marked benefit in syphilitic ulcers of the tongue and throat, especially if mixed with cocaine. Mix with glycerin and water so as to form a paste, add a little bicarbonate of sodium, and brush the ulcers with the same thrice daily. Worthy of a trial as a preventive and reducer (?) of renal calculi. Dose, one to three grains, in pill or powder, with the meals.

Pine or Spruce Extract (*Abies excelsa*).—Of use as a liniment in gonorrhœal rheumatism. Of benefit in gleet. Dose, one drachm in water.

Chaulmoogra Oil (oleum gynocardiæ).—Of value as a liniment in gonorrhœal rheumatism and the osteocopic pains of syphilis, specially when mixed with lanolin. Of service in some forms of adenitis and in secondary syphilis. Dose, five to ten minims, on a full stomach.

Caraba (*Jacaranda tomentosa*).—Of some value in secondary and tertiary syphilis. Dose, a drachm.

Treatment of Elytritis and Gonorrhœa.—Vidal ("Jour de méd. et de chir.") uses gurjun balsam by preference as a topical application in elytritis, and does this by means of tampons soaked in a mixture of two parts of hot water and one part of the balsam. In gonorrhœa he gives the balsam by the mouth, and employs the following:

Gurjun balsam	4 parts.	
Gum arabic	4 "	
Simple syrup	12 "	
Infusion of burdock	40 "	M.

(Dose not given.)

Treatment of Gonorrhœa.—Ledetsch very warmly recommends ("Prager med. Woch.") quinine as a remedy for gonorrhœa, and uses the following formula:

Quininæ bisulph	1 part;	
Glycerin	25 parts;	
Aq. dest	75 "	M.

At the beginning, this is to be injected three times a day, then, after a time, twice a day, and later but once a day.

Hutchinson's Teeth produced by Scrofula.—Vaquez ("Ann. de derm. et de syph.") reports a case of Hutchinson's teeth in a young woman who gave no evidence of hereditary syphilis, but who had acquired the disease. There was a complete absence of syphilitic history in the young woman's family. Vaquez agrees with Fournier in viewing Hutchinson's teeth as due to a general disorder that interferes with the development of the body, resulting often, but not exclusively, from hereditary syphilis.

The Contagium of Syphilis.—Dr. Disse, of Tokio, has found in the blood of syphilitic individuals small cocci, surrounded by a capsule, which float free in the plasma, and respond to the coloring method of Gram ("Deutsche med. Woch."). Cultivations of these were made and diplococci produced. With the pure cultivations, rabbits, dogs, and sheep were inoculated, and pathological alterations were produced in the heart, liver, lungs, and kidneys. Further, the disease thus produced was passed on to the young of the females, whether the mothers were inoculated before or after impregnation. The alterations in the above-mentioned organs were as follows: 1. Chronic inflammatory processes, mostly interstitial, in lungs and liver. 2. Formation of tumors, consisting of vascularized round-cell tissue, which were inclined to fatty degeneration, in lungs, liver, and kidneys. 3. Multiple disease of the arteries, which ended in fatty degeneration and rupture of the vessels, in heart, lungs, and kidneys. 4. Degeneration of the parenchyma of the heart and kidneys. The place of inoculation showed no change. The cocci were found in the blood of the diseased animals, in the walls of the vessels of the diseased organs or their neighborhood, in the urine, and in the pericardial serum. They were also found in the placenta. The author thinks that the disease produced in these animals was syphilis, but that it differed from the disease as seen in men by an absence of initial lesion and exanthem.

New Inventions, etc.

PRESENTATION OF INSTRUMENTS

AT THE NINTH MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

Dr. E. Carroll Morgan, of Washington, D. C., exhibited a *Universal Scoop Powder-blower* suitable for office work or outdoor practice, which can be worked at pleasure by either rubber bulbs or the compressed-air office receiver.

The instrument is of hard rubber, has removable screw-tips for antero-nasal, post-nasal, pharyngeal, laryngeal, aural, vaginal, rectal, and other work. These various tips have threads, and can be screwed to the instrument, thus securing perfect safety. The scoop is secured to the handle by a bayonet fitting. The air-blast which propels the powder is under the control of a trigger-valve, the spring of which can be made of any desired resistance, from a hair trigger up.

A pair of rubber bulbs are to be attached to the bayonet fitting seen in the cut, at the end of the handle, and to the right of the trigger.

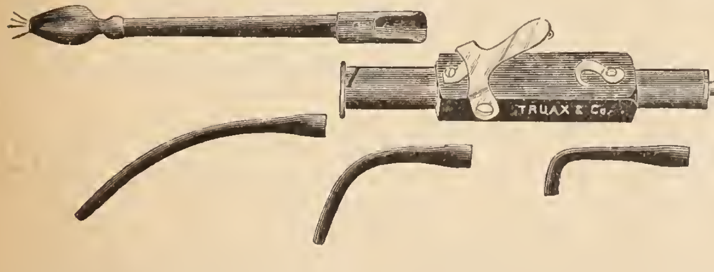
To work the instrument, select and screw on the required tip, and take up the desired amount of powder by the scoop, which is to be slipped into the handle.

Work the bulbs until they are sufficiently distended. The trigger-valve will prevent the escape of air until you have the instrument in position and are ready to discharge it by pressing the trigger.

By means of the shovel or scoop the exact quantity of powder which it is desirable to apply to a diseased part can be readily measured and as accurately insufflated.

It will be seen that in using this powder-blower no sucking up of mucus and caking of powder in the end of the tube, so common in other insufflators, can possibly occur.

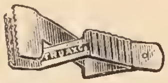
Again, the instrument being really an air-gun charged with compressed air and loaded with a known quantity of medicine, by simply touching the trigger the powder is discharged. It is not necessary to make sudden pressure upon a bulb, which results often in throwing the end of the insufflator, and thus the powder, away from the diseased part, and, in case the bulb is allowed to expand prior to withdrawal, in the filling of the extremity of the insufflator with foul secretions.



When the instrument is to be worked by the office air-receiver the ordinary cut-off is simply attached to the metallic fitting provided on the handle, the cut-off being locked back and the air-blast controlled by the trigger as when using the bulbs. The small hook on the handle beneath the trigger is to lock it also if desired.

This instrument has in a modified form the better qualities of several insufflators and some original points, which render it the most desirable powder-blower procurable. It is made by Charles Truax & Co., Chicago, and can be obtained with a straight handle as shown in the cut, or with the handle placed at an angle of 45° to the staff of the instrument.

Dr. Morgan next presented a *Uvular Hæmostatic Clamp*, an improvement on the novel device (a shirt-sleeve clip) with which he succeeded in controlling the dangerous and protracted bleeding following a staphylotomy in March, 1885. The particulars of this, as well as of twenty-three similar cases collected by Dr. Morgan, are published in the "New York Medical Journal," October 16 and 23, 1886, and in the "Transactions of the American Laryngological Association" for 1886. The accompanying cut explains the instrument, and it is only necessary to add that the clamps are made with springs of three strengths, that the small perforation seen where the arms join is for the attachment of a safety thread, and that the clamp may occasionally aid in performing posterior rhinoscopy.

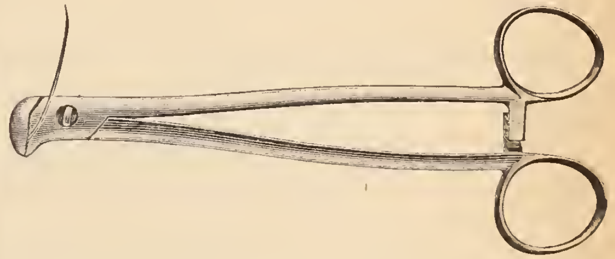


The unfortunate accident demanding the employment of this instrument may not occur in a life-time, and, though efficient, it is not destined to have a wide field of usefulness.

AN ASEPTIC UNIVERSAL NEEDLE FORCEPS.

By George R. Fowler, M. D.,
BROOKLYN.

Ever since the introduction of the excellent form of flat needle known as the Hagedorn, surgeons have regretted the apparent necessity for a needle-holder of considerable complexity of mechanism, in order to grasp this form of needle firmly. The device of Hagedorn for accomplishing this purpose is open to the very serious objection of having a number of "stow-away" places for dirt, and consequently infectious material. It requires the services of a mechanician, when it is cleaned, in order to take it apart and put it together again properly. F. Haslam & Co. have made, at my suggestion, a needle forceps which combines three very desirable qualities. In the first place, it is thoroughly aseptic, being composed of but two parts, which unlock and come apart by means of what is known as the "French lock." Secondly, its jaws are of hard steel, instead of being faced with soft copper, as is the case in the Hagedorn forceps, and consequently are more durable; and, lastly, it is so arranged as to grasp firmly a needle of any shape, whether flat, round, or three-cornered. The above cut represents the needle-holder grasping a Hagedorn needle, which can be placed at any angle between its jaws. A shallow groove upon the face of one of its jaws enables it to hold with equal security a round or a three-cornered needle. The advantages of possessing a needle-holder capable of grasping any sort of needle will be apparent to every surgeon.



Miscellany.

The American Rhinological Association.—At the fifth annual meeting of this association, officers were elected as follows: Dr. C. H. von Klein, of Dayton, O., president; Dr. R. S. Knode, of Fort Wayne, Ind., and Dr. A. G. Hobbs, of Atlanta, Ga., vice-presidents; Dr. John North, of Keokuk, Ia., secretary and treasurer; and Dr. N. R. Gordon, of Springfield, Ill., librarian. It is announced that the next meeting will be held in Cincinnati, in September, 1888.

The "Brooklyn Medical Journal."—It is announced that a monthly journal with this title is to make its appearance next month. Its publication is authorized by the Medical Society of the County of Kings, and it is to be edited by a committee consisting of Dr. Joseph H. Raymond, Dr. Alexander Hutchins, Dr. Joseph H. Hunt, Dr. Glentworth R. Butler, and Dr. Fred D. Bailey. It will contain the society's proceedings and those of several other Brooklyn societies, together with matter of various kinds suitable to a journal of general medicine.

Railway Surgery in Boston.—The Boston "Traveller" states that Dr. George W. Galvin has opened an accident room in the United States Hotel, under the auspices of the New York and New England, the Old Colony, and the Boston and Albany railways, for the purpose of rendering speedy treatment in cases of emergency among the passengers and employees. The "Traveller" says: "The office is not only very cozy, but exceedingly tasteful in all its appointments. It has a fine surgical case with all necessary instruments. An ambulance is ready at a moment's notice, also a telephone, No. 1210. A special ambulance is being built, so that nothing will be wanting when an accident occurs. The advantages of this room can not be overestimated, and minor operations are daily performed. Many cases of fractured limbs are treated. Since the public has been notified of the existence of this place it has availed itself of the privileges, and some days as many as a dozen patients receive treatment. The patients requiring home treatment are visited at the expense of the road. Other accidental cases are brought from steamboats, wharves, and large business stores for surgical aid. Dr. Turnbull, connected with the Boston Dispensary, assists Dr. Galvin in the work. And in this way nothing is left undone to give speedy assistance to the sufferer."

Lessons from Specialists.—In an editorial article with this title, the "British Medical Journal" says:

"Specialism, no doubt, is open to great evils, and medical education should never be specialized. The man, however, who works at a specialty is often in a position to work to the point alone, the only sound way of proceeding on a new track. Teaching pupils is of great advantage to the general surgeon. Lecturing on a subject which will be thrown aside as soon as the lecturer can afford to forego the emoluments of the chair, and to vacate it in accordance with some hospital rule, may not be an unmixed evil, yet it is probable that many specialists have been doing all the better for working at their subject alone, free from the honorable burden of instructing youths who often take little interest in their labors; and most assuredly the same specialists have enjoyed the advantage of freedom from uncongenial drudgery at lectures on matters of secondary importance to them. We are convinced that many a young surgeon has been prevented, through the heavy burden of tutorial duties, from devotion to original research.

"That everything good does not come directly out of a medical school the introduction of anæsthetics amply testifies. Dr. Ephraim McDowell, whose biography Dr. Alexander Simpson has sketched in his recent lecture published in these pages, performed a once desperate operation in a backwood town. Here, however, let us be fair to the schools, for the father of ovariotomy had been well taught, and had also taught himself well at Edinburgh, as Dr. Simpson explained in his introductory lecture. McDowell's early exploits sound like the legends attributed to Eastern sages. In his youth Buddha won races and studied learned books. In his youth McDowell beat a champion foot-racer, and conned books of travel and treatises on chemistry. He left college, sought no lecture chair, but took to practice, and gained a reputation as an operator. Most interesting is it for us to note that he was thirty-eight years old when he performed his first ovariotomy. He was then mature, and had ripened on surgery; he had worked, in fact, to the point for years. Turning to Hodge, we find that he practiced for fifteen years before taking an appointment as lecturer; but the professorship which he held for forty years was entirely congenial to his tastes; it implied the teaching of the subject which he loved, and by which he made his bread.

"The invention of the lever-pessary was no small matter; it was the result of years of patient observation matured by a happy thought. Pessaries have been modified almost to infinity; but this fact shows how actively the study of displacements has been pursued, a fact equally demonstrated by the violent attacks against pessaries made by men of high authority. If pessaries are to be abolished, it is only by proof of their uselessness compared with other methods of treatment, and this proof must be based on further study. Some very particular persons seem to despise pessaries because they are distinguished by inventors' names; but this evil has arisen far more through the love of convenience of nomenclature than through personal vanity. The pupil and the instrument-maker, not the gynæcologist, is generally to blame.

"The early struggles of Marion Sims deserve to be remembered. No man ever did so much original work untrammeled by academic duties, yet he made a bad start in life through defective academic instruction. 'Our indiscretions often serve us well when our best plots do pall,' as Hamlet said; and the failure of Dr. Marion Sims to cure babies with infantile diarrhœa made him throw his door-plate down a well in disgust; then he went to a medical school again for a year; thence he fled once more to the wilderness, and practiced in a little town in Alabama. His learning did him yeoman's service. He had learned to observe. In a very short time he had reformed plastic surgery, and discovered the singular phenomena associated with the genu-pectoral posture.

"Such an example should not be forgotten by those who have the advantage of education at some venerable British university, and of membership of a staff of a great hospital, with its infinite resources. Let them not find out faults in Marion Sims; no, let them excel him in his merits—if they can."

The Health of Boston.—During the week ending Saturday, December 17th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 28 cases and 9 deaths; scarlet fever, 65 cases and 5 deaths; typhoid fever, 21 cases and 3 deaths; measles, 8 cases. There were also 39 deaths from consumption, 18 from pneumonia, 1 from whooping-cough, 9 from heart disease, 8 from bronchitis, and 2 from marasmus. The total number of deaths was 208, against 202 for the corresponding week last year.

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 16th:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending November 26th corresponded to an annual rate of 23·5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Leicester, viz., 13·8, and the highest in Blackburn, viz., 34·4 in a thousand. Small-pox caused 16 deaths in Sheffield and 1 in London.

London.—One thousand eight hundred and sixty-one deaths were registered during the week ending November 26th, including 1 from small-pox, 27 from measles, 53 from scarlet fever, 31 from diphtheria, 75 from whooping-cough, 18 from enteric fever, and 18 from diarrhœa and dysentery. There were 560 deaths from diseases of the respiratory organs. Different forms of violence caused 56 deaths, and 5 suicides were registered. The deaths from all causes corresponded to an annual rate of 23 in a thousand. In greater London 2,325 deaths were registered, corresponding to an annual rate of 22·4 in a thousand of the population. In the "outer ring" 7 deaths from diphtheria, 20 from measles, 11 from scarlet fever, and 13 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending November 26th in the sixteen principal town districts of Ireland was 28·3 in a thousand of the population. The lowest rate was recorded in Lisburn, viz., 0, and the highest in Drogheda, viz., 33·8 in a thousand.

Dublin.—Two hundred and twenty-nine deaths were registered during the week ending November 26th, including 8 from measles, 6 from whooping-cough, 1 from typhus, 11 from scarlet fever, 3 from diphtheria, 1 from enteric fever, and 2 from dysentery. Diseases of the respiratory organs caused 54 deaths. Four accidental deaths and 1 suicide were registered, and in 45 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 33·8 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending November 26th corresponded to an annual rate of 23·5 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Dundee, viz., 18·8, and the highest in Paisley, viz., 35·8 in a thousand. The aggregate number of deaths registered from all causes was 588, including 13 from measles, 11 from scarlet fever, 4 from diphtheria, 30 from whooping-cough, 12 from fever, and 8 from diarrhœa.

Germany.—The deaths registered in fifty-three cities of Germany, having an aggregate population of 6,831,222, during the week ending November 19th corresponded to an annual rate of 19·8 in a thousand. The lowest rate was recorded in Erfurt and Mainz, viz., 13, and the highest in Hamburg, viz., 29·6.

During the week ending November 12th the deaths registered corresponded to an annual rate of 19·5. The lowest rate was recorded in Mainz, viz., 11·5, and the highest in Münster, viz., 34·5.

Buenos Ayres.—One thousand and ninety-four deaths were registered during the month of September, including 92 from small-pox, 16 from enteric fever, 2 from scarlet fever, and 33 from diphtheria.

Gibraltar.—The secretary of the board of health reports, under date of November 21, 1887, as follows: "With reference to the board of health order of the 15th instant, it has been decided to remove the quarantine restrictions at this port on arrivals from Malta with clean bills of health and health on board."

Havana.—Seven deaths from yellow fever and 67 from small-pox are reported for the week ending December 3d.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	Novemb'r 26.	2,260,045	....	..	....	7	....	32	3	32
Glasgow	Novemb'r 26.	545,678	246	..	....	....	....	7	2	1
Warsaw	Novemb'r 19.	439,174	228	..	....	23	....	....	10	13
Amsterdam	Novemb'r 26.	378,686	164	..	....	....	....	....	....	3
Copenhagen	Novemb'r 22.	290,000	133	..	....	....	....	4	6	3
Munich	Novemb'r 12.	269,000	141	..	....	....	....	....	....	6
Edinburgh	Novemb'r 25.	258,629	118	..	....	....	....	1	1	....
Palermo	Novemb'r 27.	250,000	......	..	....	....	....	1	....	6
Belfast	Novemb'r 26.	224,422	125	..	....	....	....	3	2	1
Genoa	Novemb'r 26.	179,537	85	..	....	10	1	....	....	....
Leipsic	Novemb'r 26.	170,000	59	..	....	....	....	....	2	3
Trieste	Novemb'r 12.	150,157	90	..	....	20	....	....	3	3
Trieste	Novemb'r 19.	150,157	73	..	....	7	....	2	3	....
Toronto	December 3.	130,000	31	..	....	....	....	....	....	4
Toronto	December 10.	130,000	24	..	....	....	....	....	....	2
Stuttgart	Novemb'r 26.	125,510	43	..	....	....	....	....	1	....
Bremen	Novemb'r 24.	119,000	38	..	....	....	....	....	1	....
Havre	Novemb'r 26.	112,074	71	..	....	....	....	7	....	1
Barmen	Novemb'r 26.	108,000	29	..	....	....	....	....	....	2
Leith	Novemb'r 26.	72,297	28	..	....	....	....	....	1	1
Cienfuegos	Novemb'r 28.	35,464	22	..	3	11	....	....	....	....
Callao	Novemb'r 12.	34,000	......	..	....	....	....	....	....	1
Guayaquil	Novemb'r 17.	30,000	46	..	....	15	....	....	....	....

UNITED STATES.

Delaware Breakwater Quarantine Station.—The acting assistant surgeon in charge reports that the American brigantine Rocky Glen, from Guadaloupe, via Turk's Island, loaded with salt, and bound to Boston, towed into the Delaware Breakwater on the 8th instant, and it was reported that four of the crew were sick with yellow fever, and that one man had died during the passage. He immediately visited and inspected the vessel, and found that the men were suffering from malarial fever, not yellow fever.

Tampa, Fla.—Yellow Fever.—The quarantine inspector reports the hospital closed, but that there are still a few cases of the disease in Tampa.

The Rush Medical College, of Chicago.—The faculty and trustees announce that Dr. Charles T. Parkes has been chosen to succeed the late Dr. Moses Gunn in the professorship of surgery; also that Dr. Arthur D. Bevan, of the Medical Department of Willamette University, Portland, Oregon, has been elected to the professorship of anatomy.

THERAPEUTICAL NOTES.

Iodoform in the Treatment of the Obstinate Vomiting of Pregnancy.—Dr. John B. Stone, an acting assistant surgeon in the army, writes to us from Fort Maguinnis, Montana, as follows: "I have had several cases where iodoform, suspended in glycerin, applied on cotton against the os uteri, has controlled obstinate vomiting in pregnancy. The treatment is to be continued daily for a week or so, and then stopped, and in some cases there will be no further vomiting for many days. The treatment might, of course, often be objected to by patients."

A Snuffing-powder for Coryza.—M. Pierre Vigier ("Gaz. hebdom. de méd. et de chir.") considers a powder composed of equal parts of powdered starch, boric acid, and tincture of benzoin to possess certain advantages, especially that of not being too light. The mixture should be triturated for a moment, then dried with a gentle heat, and put into a box, without pushing the powdering process too far. The rapidity of the effect is proportionate to the amount of the powder used and the frequency with which it is employed.

Sodium Sulphobenzoate as an Application to Wounds is highly recommended by M. Heckel, of Marseilles (*ibid.*), who has employed it in the Hôpital St.-Mandrier, at Toulon. Stress is laid upon the fact that it is free from the occasional unpleasant effects of many other antiseptics used for the same purpose.

The Turpentine Treatment of Consumption.—At a recent meeting of the Paris *Société de thérapeutique* (*ibid.*), M. Brémond, after referring to his previous teachings concerning the benefit to the general nutrition resulting from ozonification of the air of patients' rooms by means of oil of turpentine, reported that he had lately tried the plan with phthisical patients. All of them had gained flesh in proportion to the duration of the treatment, and their general and local condition had improved, as shown especially by a very notable diminution of the number of bacilli in the sputa. In certain arthritic patients also very favorable results had been observed.

Antiseptic Rules for Monthly Nurses.—In a paper introducing a discussion on the prevention of puerperal fever, at the Section in Obstetric Medicine of the British Medical Association ("Brit. Med. Jour."), Dr. W. S. Playfair laid down the following "antiseptic rules for monthly nurses": 1. Two bottles are supplied to each patient; one contains a solution of chloride of mercury, of the strength of one part to one thousand of water, tinted with litmus (called the 1-in-1,000 solution), the other carbolized oil (1 in 8). 2. A small basin containing the 1-in-1,000 solution must always stand by the bedside of the patient, and the nurse must thoroughly rinse her hands in it every time she touches the patient in the neighborhood of the genital organs, for washing or any other purpose whatsoever, before or during labor, or for a week after delivery. 3. All sponges, vaginal and rectal pipes, catheters, etc., must be dipped in the 1-in-1,000 solution before being used. The surfaces of slippers, bed-pans, etc., should also be sponged with it. 4. Vaginal pipes, enema tubes, catheters, etc., should be smeared with the carbolized oil before use. 5. Unless express directions are given to the contrary, the vagina should be syringed twice daily after delivery with warm water, with a sufficient quantity of Condy's fluid dropped into it to give it a pale pink color. 6. All soiled linen, diapers, etc., should be immediately removed from the bedroom.

Tanacetic Rabies.—The "British Medical Journal's" Paris correspondent says: "A note upon the 'Biological Effects of the Essence of Tanacetum, and Tanacetic or Pseudo-rabies,' by M. M. H. Peyraud, was lately read at the *Académie de médecine*. In the course of his biological researches on a series of isomeric essences the author noticed an essence which has not yet been classed exhaling an odor resembling that of absinthe. This essence, from which Bruylants obtained tanacetic camphor, was extracted from the *Tanacetum vulgare*, and has an atomic constitution similar to that of essence of absinthe and Japanese camphor, $C_{20}H_{16}O_2$. Putzeys, of Liége, was the first to study the biological effects of tanacetic camphor. M. Peyraud gave venous injections of two drops of essence of tanacetum to rabbits, with the following results: In twenty minutes the animal was seized with violent convulsions; it bounded backward and forward, and fell down, generally on its left side; its teeth chattered; it bit its tongue; it foamed at the mouth, the foam being occasionally tinged with blood; the mucous membranes were discolored; the fæces and the urine escaped; the respiration was spasmodic and hurried (115 inspirations a minute). The convulsions ceased, and recommenced with redoubled violence. The animal started at any sound close to its ear; it bit the ground and its own paws; when placed on the opposite side to that on which it had fallen, it recovered its previous position by the aid of its teeth. This tanacetic convulsion lasted an hour or more, according to the quantity of essence injected. If the dose was more than four drops, the animal died of asphyxia. The convulsions were succeeded by coma of two or three hours' duration; the animal then recovered its normal condition. During the convulsions it continually uttered a hoarse cry, like that heard in the epileptic convulsions caused by essence of absinthe and Japanese camphor. The attack produced by tanacetum differs from those produced by these substances in the following respects: there is no loss of consciousness; there is only one attack which is followed by a long period of coma; the sensorial functions are excited rather than suspended. The glycogenic function of the liver is not arrested; the liver examined immediately after death was found to contain a remarkable proportion of glucose. Bromide of potassium does not prevent the attacks. Like essence of absinthe, essence of tanacetum raises the temperature. The rectal temperature of M. Peyraud's rabbits was 39·9° C. (103° F.) before the operation, and 40·2° C. (104·2° F.) after it. The injections give rise to congestive patches on the lung, with a tendency to inflammation of the pleura, and blood infarcts in the liver. The trachea and the bronchial tubes were found to contain frothy, blood-stained mucus. M. Peyraud concludes that the character of tanacetic convulsions approaches that of the convulsions caused by rabies. The following phenomena are observed in both cases: hallucinations, convulsions without loss of consciousness, opisthotonos, spasms in the muscles of the pharynx, larynx, and throughout the thorax; abundant salivation, sensorial excitability, a desire to bite, a hoarse characteristic cry, frothy sanguinolent mucosities in the trachea and bronchial tubes, subpleural hæmorrhage, blood infarcts in the liver."

The Time for the Administration of Acids, Alkalies, etc.—A correspondent of the "British Medical Journal" says: "My teacher, Sir Robert Christison, as far as I can remember, taught us the following rules: Alkalies should be given before food. Iodine and the iodides should be given on an empty stomach, when they rapidly diffuse into the blood. If given during digestion, the acids and starch alter and weaken their action. Acids, as a rule, should be given between the digestive acts, because the mucous membrane of the stomach is in a favorable condition for the diffusion of the acid into the blood. Acids may be given before food when prescribed to check the excessive formation of the acids of the gastric juice. By giving it before meals you check the osmosis stomach-ward of the acid-forming materials. Irritating and dangerous drugs should be given directly after food, such as the salts of arsenic, copper, zinc, and iron, except where local conditions require their administration in small doses before food. Oxide and nitrate of silver should be given after the process of digestion has ended; if given during food, chemical reactions destroy or impair their special attributes, and defeat the object for which they were prescribed. Metallic salts, especially corrosive sublimate, also tannin and pure alcohol, impair the digestive power of the active principle of the gastric juice, so should appear in the stomach during its period of inactivity. Malt extracts, cod-liver oil, phosphates, etc., should be given with or directly after food, so that they enter the blood with the products of digestion."

Lemon-juice in the Treatment of Epistaxis.—M. Geneuil, of Montguyon, writes to the editor of the "Bulletin général de thérapeutique" that he has met with great success in the treatment of epistaxis, even when all other hæmostatics had failed, by injecting lemon-juice into the nasal passages. He uses a glass urethral syringe, with which he first clears away clots by injecting cold water, and then throws in briskly a syringeful of freshly expressed lemon-juice. If the bleeding does not cease, the injection is repeated in a minute or two, but ordinarily one is enough.

ANSWERS TO CORRESPONDENTS.

No. 111.—An institution bearing that title was chartered in 1856, and became extinct in 1866.

No. 112.—The preparations are to be had of Messrs. E. Fougera & Co., 30 North William Street, New York.

No. 113.—A very good way to take a pill is to place it behind the lower incisor teeth, and then swallow a large mouthful of water.

No. 114.—The anomalous muscle you describe was probably the rectus sternalis.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, DECEMBER 31, 1887.

Original Communications.

THE TREATMENT OF ABSCESSES.*

By G. DE N. HOUGH, M. D.,
NEW BEDFORD, MASS.

ACUTE suppuration is always due to the entrance of micro-organisms into the tissues. This assertion is based upon the following facts:

1. In at least 98 per cent. of all abscesses examined microbes have been found, and as experience in bacteriological work increases the number of cases in which they are not found diminishes.

2. Inoculation of the tissues with pure cultivations of the organisms found in suppurative processes produces suppuration.

3. The injection into the tissues of chemical irritants freed entirely from micro-organisms never produces suppuration.

Cold abscesses are of tubercular origin, as is proved:

1. By their always containing tubercle bacilli or their spores.

2. By the fact that inoculations with tubercle bacilli produce cold abscess.

Whether the abscesses of actinomycosis are due to the actinomyces or to the ordinary organisms of suppuration is at present unsettled. Abscesses are made ichorous by the bacilli of putrefaction, which alone can not produce suppuration. How the organisms produce suppuration we do not yet know; certainly not by any mechanical effect; and Brieger has lately shown that the commonest of the pus cocci develop no ptomaine in their cultivation media, the *Staphylococcus pyogenes aureus* producing only ammonia, the *Streptococcus pyogenes*, trimethylamine, neither of which substances can produce suppuration.

It is a very recent advance in surgery to base the treatment of abscesses upon exact knowledge of their ætiology, and such treatment, by no means as yet adopted by the general practitioner, has hardly come into general use among surgeons. The object of our procedure is to convert the suppurating focus into an aseptic wound which shall heal by first intention. Disinfect the skin over the part to be operated upon and for some distance round by thorough scrubbing with soft soap, hot water, and a nail-brush for from five to ten minutes, shaving clean, and then scrubbing with chlorine-water (aquæ chlori, aquæ destillat., partes æquales) or carbolic acid (5-per-cent. solution). The chlorine-water is preferable. but too expensive ($4 a gallon). My own hands and forearms and those of my assistant are scrubbed in the same way. Instruments are cleaned, disinfected by heat or strong antiseptic solution, and immersed in hydro-naphthol solution (1 to 1,200), hot. The parts to be operated upon are surrounded by towels wet in 1-to-1,000 hot sublimate solution. A free incision is now made into the abscess, not at the place of pointing, but through sound integument, and its walls are thoroughly scraped with a sharp spoon till healthy tissue seems to be reached, irrigating freely meanwhile with as strong a sublimate solution as is thought safe, usually 1 to 1,000. If trabeculæ cross the abscess (very common in the female breast), break them down and make a single smooth-walled cavity.

In glandular abscesses, such as those associated with tubercular glands of the neck or axilla or with buboes, it is best to treat the diseased mass as a tumor and, if possible, extirpate it without opening the abscess; but if the skin over the glands is involved I take care to make the incision through healthy integument at one side of the mass of glands, advance behind it and work to the surface on the opposite side, opening the abscess itself as late as possible and taking every precaution to prevent the pus from coming in contact with healthy tissues.

Having thoroughly removed all suspicious tissues and, by scraping and irrigation, obtained an aseptic wound, the introduction of sutures and drains follows. I take great pains to apply sutures so as to obliterate the entire cavity, and, if this is possible, prefer to use horsehair drains. Finally, a firmly compressing dressing of sublimated absorbent gauze (prepared by soaking in a 1-to-500 sublimate solution containing 10 per cent. of glycerin) and Am Ende's sublimated paper wool is applied. Within twenty-four hours the temperature usually rises to 100° or 100·5°, but in twenty-four hours more it falls to normal, and there remains unless elevated by some cause unassociated with the operation.

Twenty-four to seventy-two hours after the operation, according to the size of the abscess, I change the dressing and remove the drains. The second dressing remains on for a week as a rule. It is rare for more than three to be required.

This paper was originally intended to be read at a meeting of the South Bristol District of the Massachusetts Medical Society in November, 1886. Owing to my having typhoid fever, this was not done. The brief histories which I shall give are those of cases treated prior to that time. It is hardly necessary to state that during the year which has since elapsed I have had many more cases, and I can assure you that the results have been fully as satisfactory as formerly. I make this statement that you may not suppose that I report only selected cases, particularly successful. Further, I shall only include cases treated in private practice, mostly in tenement-houses, because the objection has been made that it is impossible to carry out the antiseptic details save in a hospital. Judge for yourselves how true this is!

First, let me present the most favorable class of cases—viz., those where the skin was not affected and obliteration of the cavity was possible.

CLASS I.—1. Neck. Capacity, eight ounces. Situated along the posterior border of the sterno-mastoid, extending downward from the mastoid process for three inches and forward under the sterno-mastoid along the great vessels two inches. Acute. Operation, March 29th. Healed in fifteen days; three dressings.

2. Neck. Capacity, three ounces. In front of the mid-

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* Read before the Society of the Alumni of Bellevue Hospital, November 2, 1887.

dle of the sterno-mastoid. Acute. Operation, May 17th. Healed in seven days; two dressings.

3. Neck. Capacity, two ounces. About midway between the acromion and the mastoid and an inch and a half behind the anterior border of the trapezius. Acute. Operation, June 10th. Healed in seven days; two dressings.

4. Suppuration in the olecranon bursa. Capacity, an ounce and a half. Acute. Operation, September 6th. Healed in fourteen days; three dressings.

5. Suppuration in the prepatellar bursa. Ichorous. Capacity, nine ounces. Operation, August 10th. Healed in seven days; two dressings.

6. Suppurating hæmatoma at the inner side of the knee. Capacity, three ounces. Operation, January 14th. Healed in eight days; two dressings.

7. Suppurating hæmatoma under the glutæus maximus. Capacity, a pint. Operation, September 3d. Healed in sixteen days; three dressings.

8. Enlarged glands in the neck for two years. Abscess began four weeks before operation. Side of the neck in front of the sterno-mastoid. Capacity, six ounces. Operation, November 6th. Healed in eight days; two dressings.

9. Neck. Glands enlarged six months. Abscess forming for six weeks. Mass of the size of a goose's egg. Operation, November 15th. Healed in eleven days; three dressings.

10. Neck. Glands enlarged for years. Abscess first noticed about six weeks before. Mass of the size of a small orange. Operation, January 23d. Healed in nine days; three dressings.

11. Neck. Abscess had been growing at least a month. Capacity, an ounce. Operation, May 5th. Healed in ten days; three dressings.

12. Neck. Submaxillary region. Capacity, two ounces and a half. Had existed three months. Operation, September 9th. Healed in seven days; two dressings.

I have had twenty-one more cases which belong here, in which equally good results have been obtained.

Class II.—You will remember that in describing the operation I stated that I made the incision not at the place where the abscess was pointing, but as far from that place as possible. This is to insure primary union of the incision. Of course, the affected integument is thoroughly scraped and, if there is no hope of saving it, excised. The importance of this point was impressed upon me by the following case:

34. Inguinal bubo from chancroid, of the size of an orange. Just about to rupture spontaneously. Incision at the place of pointing. Operation, December 18th. At the second dressing I found that a piece of skin three inches by an inch had sloughed, the entire wound was gaping widely, and the whole cavity had to heal by granulation, which required fifty-three days.

Now compare with this the following, precisely similar:

35. Inguinal bubo, chancroidal, of the size of an orange—pointing. Here I made the incision properly, and (as in all cases ought to be done), fearing a skin slough, sewed the flap down to the subjacent tissues in such a manner that, should the slough take place, there would be only a superficial granulating surface, not a deep cavity. The sloughing took place as largely as in Case 34, but the whole was soundly healed in thirty-three days.

In twelve other cases I have observed more or less sloughing of the skin.

36. Neck. Capacity, twenty drachms. Acute. Slough of the size of a quarter. Operation, January 15th. Healed in sixteen days.

37. Axilla. Mass of the size of a hen's egg. Chronic slough as large as a nickel. Operation, May 12th. Healed in seventeen days.

Cases 38 to 47, inclusive, show similar results.

Class III.—In certain cases the cavity can not be obliterated. This is especially apt to be the case when there is extensive induration of the surrounding tissues and in the female breast. Here we may obtain primary union of the skin, but the cavity must granulate; hence a drainage-tube must be used for a long time and healing is slow.

48. Acute inflammation of a sebaceous cyst of the face. Size, that of an English walnut. Surrounding tissues indurated. Operation, October 16th. Healed in twenty-four days.

49. Breast. Intraglandular. Capacity, an ounce. Operation, October 23d. Healed in twenty days.

50. Breast. Subglandular. Capacity, twelve ounces. Operation, June 12th. Healed in sixty-five days.

51. Breast. Intraglandular. Capacity, six ounces. Same patient as Case 50, the other breast. Operation, June 12th. Healed in seventy-nine days.

52. Breast. Both intraglandular and subglandular. Capacity, a pint. Operation, October 4th. Healed in forty-two days.

53. Glandular of the neck. Lanced a year before and had been running ever since. A chain of enlarged glands occupied the submental, submaxillary, and parotid regions. Incision from the median line to the mastoid process; submaxillary gland involved. The cavity was obliterated save at the site of the submaxillary gland, where a place remained about as large as a hen's egg. The remainder united by first intention, but this cavity only after forty-three days.

I have had four more cases of this class.

Class IV.—Cellulitis of the leg, hand, or forearm. The method in its entirety I have not yet dared to apply here (although in the last thirteen of my sixteen cases I have been able to eradicate suppuration by one operation), *i. e.*, I do not close the wounds and try to get primary union, but leave them open to heal by granulation.

I have known of two cases where closure of the wounds was attempted. In both the inflammation recurred with greater severity than at first, and one patient lost his arm.

My procedure is the same as in ordinary abscesses, with this addition: After removing all necrotic tissue and gaining free access to all parts of the inflamed area, I wash it out very thoroughly with a solution of zinc chloride (1 in 16), and then, by irrigating with a weak sublimate solution, remove the excess of zinc chloride. In all the cases so treated no further pus formation has occurred. I believe that the zinc salt penetrates the tissues for some little distance, say a quarter of an inch, is converted into zinc albuminate, which is an antiseptic, and destroys the micro-organisms not reached in the usual way. Moreover, the zinc solution almost entirely checks the oozing, which is apt to be quite free. The wounds are packed with antiseptic gauze and a firmly compressing bandage is applied. After one or two days the dressing is changed and compression no longer employed. As soon as granulation begins I resort to strapping and do my utmost to hasten healing.

Class V.—Abscesses in the immediate vicinity of the rectum or vagina—ischio-rectal abscesses and suppurating glands of Bartholin. In a few cases of the latter sort I have obtained primary union, but, as a rule, suppuration can not be eradicated at one operation in these localities.

Class VI.—Empyema thoracis. For obvious reasons the operative procedure above described is not applicable here in ordinary cases, but when, after the utmost possible expansion of the lung and retraction of the chest-wall, a suppurating cavity still persists and Estlander's operation is required, this method can give primary union. One such case I have treated. There was no suppuration after the operation, but, as I did not remove enough bone to allow of close contact of the soft parts and obliteration of the cavity, healing of the cavity was slow.

Class VII.—Abscesses connected with chronic bone or joint disease. If at one sitting the abscesses can be treated and the causal disease removed, we can be as sure of success as in any other cases; but often, owing to the extent of the abscesses, more than one operation is necessary; or perhaps the diseased bone can not be removed, as in caries of the vertebræ or of the anterior surface of the sacrum. The former condition is probably most frequent about the hip. Here we should first provide for perfect drainage of the diseased focus and then treat those abscesses most remote from the focus, and gradually, from time to time, as the condition of the patient permits, work nearer and nearer to it until finally the original disease is itself removed. At each operation the suppurating area is diminished, and finally the patient is cured.

I have nothing new to offer in regard to the treatment of abscesses associated with diseased vertebræ, but would like to suggest that those connected with disease of the anterior surface of the sacrum should be treated as in the following case, a method which, so far as I can ascertain, has never before been attempted.

Annie H., aged six, German, was run over by a beer-wagon and sustained a lacerated wound of the face, fracture of the inferior maxilla, and contusions of the back, buttocks, and hips. From this time she gradually ran down in health, and after two or three months began to walk lame and complain of pain in her right hip. Finally she became confined to bed, developed fever, and for several weeks before I saw her had a discharge of pus from the rectum. Tonics, stimulants, syrup of iodide of iron, and cod-liver oil had been administered freely, but with no benefit. I found her lying on her back, with the right thigh strongly abducted, emaciation extreme, the face of waxy pallor, the temperature high, the pulse very weak and rapid; and she screamed at the slightest touch. Under ether I found the movements of the hip perfect and without grating, no prominence of vertebræ, no swelling about the hip or thigh or the iliac fossæ. Diagnosis: Caries of the sacrum with abscess which had ruptured into the rectum. Evidently the rectal opening was not properly draining the abscess, or the contents of the rectum entered the abscess more or less, or both, and in consequence a chronic septicæmia was slowly killing the little patient. The problem was to drain the abscess and close the opening into the rectum. I at once cut down upon the tendon of the pyriformis muscle and followed it through the great sacro-sciatic foramen into the pelvis. Just at the foramen I found coming down along the muscle some of that gelatinous granulation tissue which we so often see in sinuses leading to dead bone. Evidently nature had already set about draining the abscess in the same way that had seemed best to me. Pushing my finger on, I inserted it into the abscess and could feel the carious patch on the sacrum. The entire cavity was thoroughly curetted, the carious patch scraped, a rubber drain introduced, and an antiseptic dressing applied. Three times a day and after every stool the rectum was thoroughly washed with Thiersch's solution by means of two large soft catheters. No more pus was discharged from the rectum. The rectal washings were discontinued after two weeks. The child was running about out of doors in less than three weeks, as healthy, apparently, as she ever had been. Through the tube there was a little lymphatic discharge, but no pus. The antiseptic dressings were continued for two months, when the mother declined to allow further treatment, considering the child well enough.

I have ascertained that soon after my dismissal the discharge became purulent again and still (a year and a half since the treatment ceased) continues, though very small in amount.

REMARKS ON THE TREATMENT OF CLUB-FOOT BY OPEN INCISION.*

By NEWTON M. SHAFFER, M. D.

The fact that the treatment of club-foot by open incision is advocated very strongly by Dr. Phelps, and is practiced almost exclusively by him in a class of cases described as "inveterate," coupled with the fact that there are a considerable number of surgeons who maintain that even tenotomy, in the same class of cases, is frequently unnecessary, leads one to think that the principles underlying the treatment of this deformity are not yet fully understood. And no rule has yet been formulated which affords us the least aid in deciding between these two extremes. It seems as if there ought to be some safe medium course.

It has been my own experience to see many cases which Dr. Phelps would describe as "inveterate" yield completely and even rapidly to simple traction, and I have seen apparently simple cases, which promised to yield to traction, require operative measures. If we could say positively and definitely when a club-foot presents to us for treatment that open incision was necessary, or that osteotomy would be required, or that traction with or without subcutaneous tenotomy or syndesmotomy would answer, we should be much nearer the solution of a difficult problem. But surgeons look at this matter from widely different standpoints, and, depending upon their education and their successes and failures with the conventional methods, they are inclined, I think, to adopt a pessimistic view when they contemplate the indifferent results so frequently obtained by the methods which have been very generally taught since the days of Stromeyer.

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* Read before the Surgical Section of the Academy of Medicine on the occasion of the discussion of Dr. Phelps's paper, December 12, 1887.

I think I can very safely say that it is quite exceptional, in both my private and public practice, to find a case of congenital club-foot which has not been operated upon once or oftener before it came under my care. It seems to be safe to say that *failure is the rule after tenotomy and the use of conventional methods;* or, to put the matter in other words, as success is not very often obtained by the methods advised in our standard works, it is not surprising that osteotomy and open incision in the treatment of club foot should have been among the developments of modern and progressive surgery.

My experience leads me to say that, in the great majority of cases, neither open incision nor osteotomy is required. And I base this opinion *not* upon the failure of *others*, but upon my own failures and successes in my attempts to test and perfect a new method of mechanical treatment based upon a study of the mechanics of the normal foot, and a further study of the changed relations which occur in the conditions under consideration. In making these tests, and in estimating the effects of properly applied traction, I have used my apparatus in some instances where there was more than a legitimate doubt as to its propriety, and have failed on some occasions; but in some cases that had been condemned to osteotomy or open incision, and in one case where amputation was proposed, perfect results have been obtained without even tenotomy by the use of the simple traction apparatus. These results—failures and successes—were secured while I was experimenting, and during that which might be called provisional work. I feel now that I can crystallize my experience somewhat, and formulate it so that it may, perhaps, be of benefit to others.

We can divide congenital club-foot into three distinct varieties, as applied to the question of surgical and mechanical treatment: (1) *Muscular club-foot*, when there is little or no ligamentous shortening, and no considerable change in the bones of the tarsus; (2) *ligamentous club-foot*, when the ligaments are the principal opponents to a reduction of the deformity; and (3) *osseous club-foot*, when the chief obstacle lies in a greater or less deformity of the tarsal bones, but principally in the astragalus.

Can we distinguish clinically between these three conditions? I am sure we can not always do so. Even if we could, I am prepared to say that the extreme measures of osteotomy and open incision would be called for very rarely. We can not determine, even in a case described by Dr. Phelps as "inveterate," that the cause of the deformity can not be removed by simple traction, or by traction and subcutaneous tenotomy, or by traction, subcutaneous tenotomy, and subcutaneous syndesmotomy. We can perhaps gauge the muscular resistance, but we can not duly estimate either the ligamentous or the bony resistance until after we have either elongated the muscular tissue by stretching it, or gained position by lengthening the tendons by cutting them; and if the muscular resistance, and especially if the muscular and ligamentous resistance, has been removed subcutaneously, the condition is a very rare one (under the age of fourteen years), in my experience (the same opportunity being given for observation that exists after open incision has been performed), that does not yield to subsequent traction.

I think it a safe rule to make the diagnosis of muscular, ligamentous, or bony club-foot by exclusion. Use an efficient traction apparatus (which is the best one I know of to follow up subcutaneous tenotomy and syndesmotomy) for a sufficient length of time to determine whether the deformity will yield to traction alone. It will do so in many so-called "inveterate" cases. If traction fails, divide the tendons and ligaments subcutaneously, and follow up the operation by vigorous traction, applied systematically, as laid down in my paper on "Traction,"* already published.

If these rules are consistently followed, I think even the most skeptical will be convinced that "open incision" and "osteotomy" are operations very rarely called for in the treatment of club-foot.

28 East Thirty-eighth Street, New York, *December 11, 1887.*

A NEW FORM OF HOOKS FOR THE TREATMENT OF SIMPLE FRACTURE OF THE PATELLA.

By WILLIAM K. OTIS, M. D.

From a mechanical standpoint, the hooks of Malgaigne have long been recognized as the most perfect of all the various devices for approximating and retaining in position the fragments in simple fracture of the patella, and have held a prominent place among the recognized methods of treating this accident. A serious objection to their use, however, has been the fact that the points of the hooks, imbedded in the tissues about the patella, always excited a certain amount of inflammatory action, sometimes followed by the more serious forms of septic infection, so that, notwithstanding their manifest advantages, they were for the time practically abandoned. Though the advances made in antiseptic surgery entirely obviated this objection, it was not until 1886, when Mr. Frederick Treves published an account of a series of six cases successfully so treated, that the attention of surgeons generally was attracted to the renewed advantages of this method.†

Even before the appearance of this article many prominent American surgeons were inclined to look favorably upon the adoption of the hooks, especially as the conservative element was becoming more and more averse to the operation of wiring in cases of simple fracture. About a year ago, while I was assisting Dr. Charles McBurney in the application of Malgaigne's hooks in two cases successfully so treated by him in St. Luke's Hospital, my attention was called to several prominent defects in the mechanism of the original instrument, which, though simple in construction, was exceedingly difficult of application.

It was not easy to adjust the hooks accurately and hold them in position while a long screw connecting-rod was being introduced by means of a key—a proceeding which added greatly to the amount of pain experienced by the patient.

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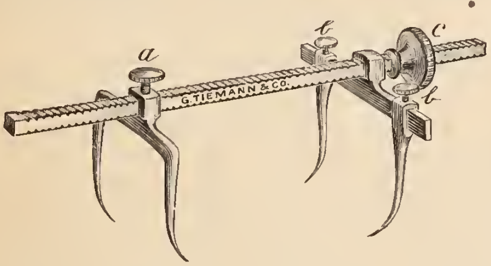
* See "New York Medical Journal," March 5 and 12, 1887, "The Use of Traction in the Treatment of Club-foot."

† See "Brit. Med. Jour.," July 24, 1886, "The Treatment of Fractures of the Patella," by Frederick Treves, F. R. S.

The hooks being fixed at a given distance apart from each other laterally, if any considerable difference existed between the size of the fragments, the larger was not held firmly, and occasionally a fragment was met with so small as to pass entirely between the hooks. So great was this defect that the English surgeon, Levis, devised a modification on this account alone, dividing the hooks into two separate pairs, and applying them at an obtuse angle to each other. This, while it accomplished the object, added greatly to the difficulties of application. The curve of the hooks made them difficult to adjust, and tended to tilt the fragments, or slip over their surface. The connecting bar was placed too near the integument, often causing an erosion of its surface. The weight of the hooks was considerable, and a small amount of corrosion in the thread of the screw made removal difficult, so that on one occasion I was obliged to cut through the hooks with a file in order to accomplish it. To remedy these defects as far as possible, I have had constructed an instrument radically different from that formerly used, at the same time I think without losing any of its advantages.



This instrument consists of two light cross-bars, which carry the hooks, and slide easily upon the main or connecting-bar, at right angles to it, by means of square slots raised somewhat from the top of each cross-bar. The main bar is a narrow, square rod, smooth on the sides, but having a screw-thread cut on the corners. One of the cross-bars may be clamped firmly at any point on the main bar by means of a small set-screw (*a*). The other cross-bar is without a set-screw. Behind it is placed a thumb-screw (*c*), running on the screw-thread cut in the corners of the main bar, which serves to push the cross-bar powerfully forward along the main bar. In regard to the hooks themselves—to which a very different curve from those originally used has been given—one pair is solidly fixed to its cross-bar, the other pair being arranged to slide upon the cross-bar and clamp by means of small set-screws (*b*, *b*), so that the hooks may be brought near to or away from each other, and thus adjusted to fit any fragment.

Application.—An ordinary straight posterior knee-splint having been applied, and the knee and instrument rendered thoroughly aseptic, the movable pair of hooks are adjusted to fit one fragment and firmly clamped to the cross-bar. Four punctures are made with a tenotome, or small bistoury, through the integument down to the bone, at points corresponding to the insertion of the hooks. The hooks having the set-screw (*a*) are removed from the bar and adjusted, the points being passed through the punctures and pressed into the bone. The second pair are applied to the other fragment in a similar manner, it being unnecessary to remove the main bar. The fragments are now brought together as near as possible by manual force; the main bar is slipped through the slot on the cross-bar of the first pair of hooks, and clamped in position by a turn of the set-screw (*a*). Any separation which may still exist between the fragments may be overcome by the thumb-screw (*c*), making the approximation exact. The operation is not excessively painful, and in ordinary cases the use of ether is unnecessary.

The instrument is complete in itself, needing no wrench or key. The connecting-bar is raised a sufficient distance to prevent its touching the integument. It is exceedingly light, and loses in a great measure the forbidding aspect pertaining to the original instrument. The practical working of the mechanism of this instrument has been demonstrated by its application by Professor R. F. Weir in a case in which, owing to the inequality of the fragments, the instrument of Malgaigne was found impracticable.

I have experienced considerable difficulty in getting the instrument properly constructed, and owe its present completeness to the efforts of Messrs. Tiemann & Co., who at present possess the only satisfactory model.

48 West Forty-ninth Street, *December 12, 1887.*

ALBUMIN IN URINE.

RECENT SWEDISH, NORWEGIAN, AND ITALIAN ESTIMATES.*

By F. B. STEPHENSON, M. D., M. M. S. S.,
U. S. NAVY.

Albumin in urine has long been looked upon as indicative of serious renal disease, but its importance *per se* as a symptom thereof is gradually lessening. Once thought to be pathognomonic of morbid alteration portending speedy death, it is now believed to occur also in a number of more or less temporary conditions compatible with general health.

There is, indeed, an apparent or false albuminuria, due to admixture of discharges from tissues with which the urine comes in contact after secretion; this should be recognized and not taken into account. True albuminous urine, it is stated, may be physiological; but may we not rather suspect the alleged health? On the other hand, we read that admixture of albumin and urine is in every instance a pathological phenomenon, though not always due to kidney disease. Urine secreted by persons in typical conditions of health is free from albumin and from sero-albumin. Mild albuminuria in those apparently well arises from a disproportion of the normal constituents of urine, particularly a large morbid increase of uric acid; in several such individuals renal calculus has subsequently been noticed. Every tenth man, it is estimated, in his time, passes albumin with the urine; and certain persons—children, youth, or adults—free from local or organic disease, may, for a short time or during a term of years, show a slight intermittent or permanent albuminuria, usually under 0·1 per cent. Such cases occur independently of any perceptible exciting cause, and may originate in great effort of body or mind, nervous headache, heavy eating or drinking (red wine causing it less than beer), febrile disturbance (from high temperature alone), "catching cold," debilitating diseases, anæmia, and poisons (arsenic, lead, opium, etc.). It is noteworthy, however, that all severe efforts of body or mind, febrile disturbance, etc., do not give rise to the alarming appearance; so, when present, it is of the more prognostic importance, especially as pointing toward that diathetic habit in virtue of which persons are apt to become affected by certain diseases. Heredity seems to be of great causative influence, although probably not able alone to produce albumin in the urine. Albuminuria is met with in purely obstructive cardiac disease, but less pronounced, relatively, than when synchronous with kidney trouble unaccompanied with heart disturbance. The albumin of true Bright's disease differs from that seen with cardiac lesion or amyloid kidney. Gastric ulcer has been discovered to be co-existent with albumin in the urine. One reported case showed 0·5 per cent. of albumin, which afterward disappeared. In another patient, a young man, who seemed to be in good health, though under depressing mental disturbance, 0·6 per cent. of albumin was excreted. In one instance (that of a man, aged thirty), where there was slightly albuminous urine, and the circulatory and nervous perturbation denoted advanced Bright's disease, yet, four years later, the urine was normal and the person's general condition much better. We note one example in which bodily exertion was repeatedly followed by mild transient albuminuria, whereas none was found while the lad lay abed with varicella, measles, and gastric catarrh successively.

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* Holsti, Bull, Semmola, Falcone.

Albumin in the urine may sometimes be regarded as of anæmic origin, all pathological indications at last passing away; it may be the consequence of an acute attack in the course of a chronic disorder, being the only symptom of such possible condition. Often it seems to depend upon more or less nervous irregularity, inasmuch as no other explanation is evident; if recognized in time, recovery might here follow, without organic change.

Alcohol, *experimenti causa*, has been given to various persons showing albumin in the urine, some of whom had renal disease and some had not; as a general result, the albumin was not noticeably increased. (Here is a chance for study as to how far appreciation of temperament and diathesis may aid in diagnosis and prognosis.)

Cases like the foregoing do not always show the peculiar retinal changes, yet these are often the first discovered signs of the dread enemy, being seen most frequently with the granular form of kidney. Ophthalmoscopic observations should be "controlled" by urinary testings.

The greater part of these examinations refer to men; it is more than likely that much light would be thrown on this difficult problem—albumin in the urine—if extended series of observations could be made with women, on account of peculiarities in their ailments.

The chief symptoms of advanced stages of diseased kidney include cardiac disturbances, severe colic, shock, epileptoid seizures, etc. May we not make, tentatively, a side-group—a pendant to the direful picture—placing therein multiform phases of nervous complaints, anæmia, etc., together with various slightly albuminuric and suspicious cases—all to be comprehended by the expression "latent renal atrophy"? Instances are known where the only subjective symptoms have been indefinite feelings of uneasiness and weakness, sometimes with urine containing a small quantity of albumin, death taking place eventually from granular disease of the kidney. On the other hand, such structural lesion may exist a shorter or longer time without excretion of albumin. When albuminuria, even mild and temporary, or intermittent, appears in any of these doubtful cases, it is thought by some to indicate the first degrees of renal atrophy. Nevertheless, small amounts of albumin have been noticed far oftener than diseased kidney; and persons who formerly had passed albumin have afterward, for years, been free therefrom, and otherwise seemed perfectly well. Albumin in the urine may be symptomatic of, but is not essential to, Bright's disease.

Considering the vast number of observations and the confusion among current explanations (or the absence of explanation) of cyclic or temporary albuminuria, as well as of the permanent form, it is argued that there are radical defects in our methods of research. The true scientific spirit and the application of exact logic are needed in place of the endeavor to make a few apparent facts support some cherished theory.* We have many experimental and clinical data, but they lack synthetic union. Facts should be observed by logical thinkers, not mere reporters. It is an error to affirm that a morbid process may have many and diverse anatomico-pathological appearances. If these appearances vary, this means that to the principal element others are added. Another important fact is that albuminuria must have a causal relation to the changes of all the factors of physiological renal action. From physiology and from clinical observation we learn that this disease appears in three forms: the dyscrasial, due to chemical change in the blood; the mechanical, originating in the pressure-state of liquids in the body; and the irritative, owing to direct excitement of renal secretory tissue. Among these, however, besides the differences of histological lesions accompanying each, there is a classic distinction as to nosography, founded on the quantity and quality of albumin eliminated. The amount is greatest in dyscrasial (true) albuminuria (Bright's disease), less in that from turgescence, and least in those forms arising from local irritation, experimental or natural, of the kidneys. In the first two varieties albumin is precipitated in caseous, grumous masses, whereas in the last it rests suspended, rendering the urine turbid, rather.

It may be said that at present our chief reliance should be placed upon the results of methodical, frequent, and long-continued investigation of the urine, with inquiry concerning the circulatory and nervous systems. The permanence of albumin in somewhat large quantity under such conditions is very significant of serious renal disease. A patient is often seen in whom the lesions are owing to several associated factors. Such cases require the physician accustomed to calm, logical thought, not the rabid scientist, for the separation of the accessory from the essential, and for finding a way to rational treatment.

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* Of interest in this connection are the remarks of Fauvelle and of Giordano Bruno anent errors of reasoning in anthropology, and those of Semmola on bacteriology.

While an exact early knowledge is thus difficult, it is not a question of mere scientific interest, but one of utmost importance to the patient. If anywhere amid the perplexities of medicine, then here may we apply the Hippocratic aphorism.

Diagnosis and prognosis become of practical value when life-insurance is in question; their bearing on military affairs is manifest. In private life we have to keep in mind the relation of the patient's condition to personal hygiene, to choosing a vocation, and to marriage.

Regarding the significance of albuminuria, the profession seems to have passed from a position of partial knowledge with confident assertion to one of doubt and research. Perhaps scientific accuracy awaits the persevering inquirer of the future.

A CASE OF COMPLETE PROLAPSE OF THE UTERUS AND BLADDER

OF FIFTEEN YEARS' STANDING.

*THIRTY VESICAL CALCULI REMOVED.**

By AUGUSTIN H. GOELET, M. D.

Miss Mary McC., aged fifty-eight years, consulted me in August last for a severe acute bronchitis, and complained incidentally of a complete prolapsus of the uterus of fifteen years' standing, the inconvenience and annoyance from which were greatly enhanced by her constant cough. The lung affection being so severe (amounting almost to a double catarrhal pneumonia), little more than a casual examination was made of the prolapse, which was found to be complete and the projecting uterus enormous.

A soothing application was ordered and my main attention was directed to the bronchial affection and the disturbance of the stomach, which appeared to be greatly irritated by the cough and the superinduced pain in the prolapsed uterus. It was with some difficulty that the stomach was made to retain even small quantities of peptonized food, and indeed, at first, everything was rejected. The convalescence was necessarily very slow.

Owing to an absence from the city, a thorough examination of the uterus was postponed until about the middle of September, when it was discovered that not only was the uterus completely prolapsed, but the bladder also had been dragged down and constituted the anterior half of the protruding mass, and contained one or more calculi of large size. This examination produced notable disturbance of the stomach which continued for twenty-four hours.

Three days later she was seen by my friend, Dr. H. T. Hanks, and we succeeded in replacing the uterus and bladder within the pelvis, where it had not been before for fifteen years. It was retained by cotton tampons and the recumbent posture. Several stones were distinctly felt at this time grating against each other.

This manipulation was followed by a more marked gastric disturbance which lasted for forty-eight hours.

A few days later, September 27th, ether was administered with a view of doing a lithotrity. A stone (next to the largest of the specimens exhibited), measuring 1$\frac{1}{16}$ by 1 inch and weighing 176 grains, was found just within the neck of the bladder and obstructing the entrance. After careful dilatation of the urethra it was removed with the forceps. Using the finger of the left hand in the vagina as a guide, and to press forward the calculus within easy reach of the forceps, the manipulation of the interior of the bladder was very much lessened. In this manner thirty calculi were removed, varying in size from that of a small pea to the largest, which measures 1$\frac{1}{8}$ by 1$\frac{1}{16}$ inch, and weighs 218 grains. The total weight is 1,352 grains, or 2 ounces, 6 drachms, and 32 grains.

There are eighteen good-sized stones, which were removed with the forceps, and the others were washed out. Some of them were imbedded in the mucous membrane of the bladder, which almost enveloped them, and were very difficult to dislodge.

The bladder was washed out with a solution of boric acid in warm water, and the patient was given a hypodermic of morphine in the epigastrium.

The reaction was prompt, and the patient suffered no inconvenience for the first twenty-four hours. She showed only slight disturbance of the stomach for the first three days, but on the fourth day she developed a sharp cystitis, and immediately the stomach showed serious disturbance. There was no increase of temperature. The nausea and retching were frequent and excessive, and not permanently relieved by the remedies which usually yield results in these conditions. The cystitis persisted and grew worse under every effort to control it. It is true that the condition of the stomach allowed little to be done in the way of internal medication beyond what could be given hypodermically.

The rectum early refused to retain nutrient enemata, and this forlorn condition went from bad to worse, and the patient succumbed on the sixteenth day after the operation with symptoms of dilatation of the stomach.

No autopsy was allowed.

243 West Fifty-fourth Street.

REPORT OF OPERATION FOR REMOVAL AND RADICAL CURE OF A STRANGULATED OBLIQUE INGUINAL HERNIA,

WITH LIGATURE OF NECK AND REMOVAL OF SAC.

RECOVERY.

By T. J. McGILLICUDDY, M. D.,

SURGEON TO THE YORKVILLE DISPENSARY AND HOSPITAL FOR WOMEN AND CHILDREN.

V. K., aged forty, laundress. In the evening when I first examined this patient I found a hard, tense swelling in the left inguinal region, tympanitic on percussion and irreducible by all the means ordinarily employed—*i. e.*, taxis, hot bath, morphine, and taxis under ether. All these being futile, I left her for the night under the influence of morphine, with the parts in a relaxed position. Twelve years before, rupture had occurred on the right side which had become strangulated; a physician had been summoned, and by the use of taxis had reduced it. Since that time she has been free from any trouble arising from the hernia excepting discomfort by its protrusion. She declined to wear a truss, and the canal being very large, she can replace the swelling quite easily.

For one week before I was called to see her she had the swelling in the left groin, accompanied by a constant aching pain, and there had been nausea and vomiting for three days. The day before I saw her, from the description given, she had stercoraceous vomiting and a small passage from the lower bowel; she complained also of slight fever and loss of appetite. The next morning she had fever, thirst, small and rapid pulse, nausea, occasional vomiting, and an anxious look. I operated, and on opening the sac, which contained no fluid, I found the seat of the stricture was in the neck; the stricture was relieved and the bowel returned, the neck ligatured, and the whole of the sac removed. The canal was obliterated by a firm suture and the wound closed. After the operation the patient rallied and said she felt comfortable, with the exception of some pain in the left side. In the evening she vomited once, and the egesta were "dark and ill-smelling," probably fæcal. Localized peritonitis set in on the second day, and succumbed to the following treatment, which consisted of three drachms of the U. S. P. solution of morphine every three hours for three consecutive days, and gradually diminished as the peritonitis subsided. Warm poultices also were used, and the patient was sponged with a mixture of alcohol and warm water. She had retention of urine, which was drawn by catheter. One drachm of whisky and two ounces of milk were given every two hours, and a small quantity of farinaceous food occasionally. On the ninth day an enema of a pint of hot soap-suds and an ounce and a half of castor-oil was given and a good evacuation obtained. After the sutures were removed there was some slight suppuration. The patient was seen nearly a year after the operation, and there had been no return of the hernia.

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* Read before the Section in Obstetrics and Diseases of Women and Children of the New York Academy of Medicine, November 23, 1887.

With our present results in abdominal surgery following on strict antisepsis, kelotomy for the radical cure of strangulated hernia ought to give the best of results. The great fear of opening into the abdominal cavity no longer possesses our surgeons, and, when practicable, the radical operation should always be performed. There is nothing formidable in removing the hernial sac if it is small, and if it is large I should recommend the removal of at least some of the upper portion of it, with coaptation of the sides of the cavity by firm, deep sutures to secure adhesion of its walls. Leaving the sac in position favors the return of the hernia, only a slight portion of the canal being obliterated.

THE APPLICATION OF ALCOHOLIC STIMULANTS TO MEDICINE,

HAVING SPECIAL RELATION TO THE THERAPEUTICS OF ALCOHOL IN DISEASE.*

By EDWARD N. LIELL, M. D.,
ASSISTANT TO THE CHAIR OF GYNÆCOLOGY IN THE NEW YORK POLYCLINIC; ATTENDING PHYSICIAN, DISEASES OF CHILDREN, IN THE NORTHWESTERN DISPENSARY.

The subject of the application of alcoholic stimulants to medicine is of such vast importance, and the expression of opinion among medical men as to its application and utility in disease so varied, that a few words upon my part, I trust, will not be amiss in endeavoring to place the matter before you in, as I deem it, its true sphere of usefulness. I shall have reference, and concern myself in this paper only, to the indications presented for its use in disease; in fact, to deal with the therapeutics of alcohol in disease, leaving out of consideration all other questions pertaining to it. There are those who to this day will be found enjoining the practice of abstention, believing the administration of alcohol to be wholly unnecessary; others are more guarded in the matter, in that they believe it useful in certain forms of disease; still others, and at the present time by far the greater number, take a more pronounced view, and advocate the administration of alcohol or the principle of judicious stimulation to be legitimate and the only rational course to pursue, especially in acute febrile disease.

But why should these varied opinions or disagreement as to facts exist among the members of our profession, they who, as regarded by the laity, are specially trained to observe, because of intimate contact among their fellow-men?

In the words of Sir Dyce Duckworth ("On the Medical Injunction of Stimulants in Disease and Health," "Brit. Med. Jour.," Nov. 10, 1886) "there is no middle course to pursue; either stimulants are all right if they be rightly used, or they are all wrong if they be used at all, or in any degree."

No routine practice can be made in the use of alcohol in disease, nor are we to understand was such intended; the same clinical acumen is called for in determining the necessity for its use as for any other drug.

The injudicious or indiscriminate use of alcohol is certainly to be opposed, but to condemn it entirely because of its abuse seems to me an argument that would condemn for the same reason most, if not all, of our reliable and more or less so-called dangerous remedies.

We are told by some that the practice of alcoholic stimulation frequently aggravates trains of morbid symptoms, establishing new centers of irritation, and thus proving somewhat disastrous in its effects upon disease; also leading to the undermining of the morals of the patient.

Such, no doubt, is the fact where stimulants are administered indiscriminately, either in excessive doses or unnecessarily; when properly and judiciously administered, however, their action is highly favorable, increasing the power of resistance to disease.

The remarkable statement has but lately been made that "the range of the use of alcohol in disease is very restricted, and its use in disease with the object of keeping up the strength of the patient is certainly unscientific; it is but adding another complication to the disease already existing, and frequently antidotes other remedies."

Let us see if there is any proof for this statement by asking what is the property of alcohol in relation to animal heat, muscular power, and nervous energy; is it utilized in the animal economy?

There are certain points of interest that bear directly upon its administration in disease, in that the true therapeutics of its employment has reference to its tolerance and the limitations as to quantity; the individual case and stage of the disease, age, sex, etc. Most of us, no doubt, are familiar with the fact that, in the febrile state, the relations between health and disease, as regards the quantity of alcohol taken, are entirely changed, in that in disease a much larger quantity can be administered without producing any morbid phenomena. The fact is evident, and there is little need, therefore, to state that, because of the moral and physical evils attending the abuse of alcohol especially as a beverage, prejudice against its use in disease has naturally been excited.

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In the employment of remedial measures we should look beyond the immediate results of treatment, and have due regard to the remote effects of certain remedies, as not infrequently we are brought face to face with the fact of the injurious remote effects of measures which are immediately beneficial; frequently, therefore, in our anxiety to keep up the strength of the patient, we allow ourselves to forget certain precautions necessary in our treatment.

To defend the administration of alcohol, especially in acute febrile disease, requires some conception of its action upon the human organism.

Regarded as a stimulant when given in moderate doses, its immediate action is upon the sympathetic, combined with a sedative influence upon the vaso-inhibitory nerves, thus increasing the frequency and force of the heart action, and causing dilatation of the capillaries, diffusing a temporary warmth throughout the body, at the same time increasing the supply of blood to the nerve-centers.

The existence of high temperature includes active destructive metamorphosis with excessive oxidation of tissue, constituting, generally, one of the most dangerous symptoms of disease. The researches of Anstie (" Practitioner," xiii, 1874), Binz (*ibid.*, iii, 1869), Ringer (" Proc. of the Roy. Med. and Chirurg. Soc.," Lond., 1866, v), Riegel (" Deut. Archiv f. klin. Med.," xii, 1874), and others, prove that alcohol, in moderate doses, causes a small, and in larger doses a considerable, reduction of temperature, the diminution in temperature being proportionate to the amount of alcohol ingested; this reduction, however, is but temporary, lasting, after moderate doses, but a few hours; the quick, tense pulse almost invariably becomes slower and at the same time stronger.

On therapeutical grounds, the large proportion of hydrogen contained in alcohol, when oxidized in the body, would seem to augment the temperature; practically, however, as proved by Binz, " the fact has been overlooked that the influence which checks other oxidation processes is more powerful than the effect of its own oxidation, accounting, therefore, for the reduction of temperature in the administration of alcohol; alcohol is, therefore, apyretic in its action, as also paratriptic, in protecting the tissues from oxidation by its own powers of oxidation." Another influence which alcohol possesses is its sedative and hypnotic effect, due to its action upon nerve-tissue, calming the restlessness and erratic movements of an excited brain—in other words, lessening excitement and calming delirium; this can be brought about more quickly by moderate doses of alcohol, repeated more or less often, than by any other means; the parched and dry tongue and skin also become moist.

From these practical observations, therefore, not easily controverted, is shown the fact that alcohol, when introduced into the system, creates and evolves heat, due to its rapid decomposition; in other words, alcohol feeds organic combustion, thus creating and evolving heat. Too free alcoholic stimulation leads to interference with endosmosis and exosmosis in the lung capillaries, and thus with the free oxidation of the agent in the system.

In acute febrile and inflammatory disease the organs essential to the digestion and absorption of food are to a great extent affected; under the circumstances, the matter of a supporting treatment is to be strongly considered, and it is here that alcohol plays an important part, having a special and favorable influence as well upon digestion, in that it decidedly increases both the acidity and flow of the gastric juice; if given in such amount as not to be fully utilized and disposed of, its action is that of a veritable poison, in that the reverse of its favorable action is the case.

Does alcohol undergo combustion when introduced into the system, and thus act as a food, aside from its stimulant action? In other words, can alcohol be considered a food as well as a medicine in relation to disease, or is it eliminated in greater part unchanged by the various emunctories? The experiments of Lallemand, Duroy, and Perrin (" On the Rôle of Alcohol and Anæsthetics in the Organism," Paris, 1860), as also those of Richardson (" Med. Times and Gazette," 1869, ii), showed that, when taken into the system, alcohol was freely eliminated as alcohol, apparently unchanged, and could therefore in no sense be termed a food. These experiments were not conclusive, however, in that actually they showed that but a part of the alcohol was excreted and eliminated, the quantities administered at a time being excessive, so that its oxidation was impossible within the time limited.

The researches of Liebig and Baudot (" Union médicale," xx, 1863; xxi, 1864), and, later on, those of Anstie (" Practitioner," xii, 1874), Dupré (*ibid.*, viii, 1872), Brunton (*ibid.*, xvi, 1876), Thudichum, H. C. Wood, and other physiologists, however, tend to prove satisfactorily that, when administered in moderate quantities and at the same time judiciously, it is practically wholly consumed in the system and not eliminated as alcohol, showing, therefore, its actual value as a food. In the excellent paper by Dupré, on " The Elimination of Alcohol," is shown the fact that there exists normally in the human urine a substance which, on distilling the urine with an acid, gives the reaction ordinarily employed for the detection of small quantities of alcohol. This has, no doubt, as stated by Dupré, led some experimenters to the belief that the elimination of alcohol continued much longer than in reality it did.

In the words of Brunton, " we may conclude that, in moderate doses, alcohol undergoes combustion in the body, supplying energy, yielding warmth, and tending to sustain life in the same way that sugar would do, and is therefore to be reckoned as a food, greatly increasing its utility in disease."

The apparently unphysiological and hurried acceptance of the conclusions of Lallemand, Duroy, and Perrin, as regards alcohol not being a food, seems to pervade still, after many years, the minds of many medical men. Furthermore, if alcohol is to be reckoned as a " mere stimulant," incapable of adding substantial aid and force to the body, how are we to explain its happy action in acute febrile disease? Its action as a " mere stimulant " is, as stated by Anstie, " merely to encourage its use in states of chronic feebleness marked by outward signs which are the reverse of those of the febrile state, and more especially for conditions of nervous exhaustion, complicated with mental depression."

In acute febrile disease, alcohol undergoes combustion itself, instead of the tissues; in other words, though not adding to the growth of any tissue, it certainly protects it against oxidation by its own oxidation, thus retarding tissue change incident to the vital processes.

This combustion and apparent entire consumption of alcohol in the system is at the expense of the oxygen to be applied for the natural heating of the body, being, as stated, a process of oxidation, this chemical change taking place only in proportion to the amount of oxygen existing in the blood; whereas, in the experiments of Lallemand, the amount of alcohol ingested being excessive, or the percentage of oxygen in the blood lessened, a rather greater proportion of the alcohol may be recovered from the excreta.

In numerous instances of disease, where the danger of failing heart-power is to be averted for a few days or even longer, or where the patient either refuses or rejects any form of nutriment, the administration of alcohol will be found of great service, tiding the patient over the worst stages, being therefore the agent by which he is kept alive and his recovery made possible.

We are all aware that in acute febrile disturbances the increase of temperature produces not only a lack of desire for ordinary food, but more or less arrest of the muscular acts necessary to digestion. Alcohol here seems to fulfill the wants of the system in this respect. The quantity of alcohol appropriate, therefore, will depend almost entirely upon the nature of the disease and the strength of the patient to resist it, having special reference to the rapidity of oxidation of the tissues of the body. With greatly increased temperature and rapid oxidation of the tissues, its employment is especially beneficial, acting both as a medicine and a food, the latter especially, because it replaces the tissues of the body, in that it affords material for the oxidation processes to feed upon.

It may perhaps be stated in a concise way that the meagerness of its nutritious properties is often made up for in usefulness by the rapidity of its assimilation; also that it requires the least expenditure of digestive and assimilative force, at the same time being an element of heat and force to the system.

Finally, in the words of Dujardin-Beaumetz ("On the Beverages in Common Use," "Therap. Gaz.," Nov., 1886), "alcohol is a food—a waste-restraining food—which, instead of energizing the combustions, slows them by robbing the hæmoglobin of the blood-corpuscles of a certain quantity of oxygen. The character of alcohol as an aliment, therefore, may not improperly be included in a therapeutical sense."

Caution is certainly required in its employment, especially when employed for a prolonged time.

Many of us have been made aware, however, of the fact that apparently unlimited quantities of alcohol may be given in some forms and stages of disease, which otherwise appear hopeless, without any untoward effects; in such cases the carrying of its use to intoxication is what is required.

The physician should have due regard for, or be guided greatly by, the feelings or desires of his patient, if any sense of discomfort is expressed from its previous administration; in fact, when a peculiar idiosyncrasy to its effects exists.

He should not fail to ascertain for himself that the dosage required during the illness of the patient is relinquished when the occasion for its employment has ceased; also that the amount administered in the acute stages of disease is gradually lessened toward convalescence. A failure to perform this duty not infrequently leads to a craving for alcoholic stimulants.

The question of alcohol being generated in the animal organism through the digestive processes, especially in the combustion of the carbohydrates, is one still undecided and open to further research; the probability of such an occurrence, however, is highly suggestive.

Not infrequently the unfortunate impulse to alcoholic excesses is due to the indiscriminate and careless prescribing of alcohol in diseases nervous in character, especially in women. This is a melancholy fact, and to expose them to such a temptation is certainly to be decried, when we are familiar with the fact that their power of mental resistance under the circumstances is generally weak. Persons are met with, however, not infrequently who are so constituted that they are utterly unable to bear any mental strain whatever, succumbing almost immediately to its effects; relief is certainly afforded by having recourse to temporary alcoholic stimulation.

In reference to the assertion that the employment of alcoholic stimulants in acute febrile disease is apt to lead to subsequent excesses, on the contrary, a more or less rapid intolerance is observable very early in its administration, due to the quantity indicated and ingested in the short space of time. The reverse, however, is evidently the case in chronic and nervous diseases.

In the application of alcoholic stimulants, to enumerate the various diseases in which its administration is deemed advisable would consume too much time; I shall content myself with referring to the main indications and morbid conditions presenting themselves.

To choose the proper moment for their employment is essential. We are not to administer them too early in the disease, where no special indication presents itself, especially in severe general inflammations, where a dilatation of the arteries and obstruction of the capillaries exists.

First of all, we are to take into consideration the fact of the resistance of the patient to the disease, whatsoever the latter may be. It is argued by some that their administration is to be deferred until the appearance of adynamia, but it may be stated, as a general rule, that we are not to wait until signs of danger arise, but rather to anticipate them, resorting to stimulants with little hesitation when necessary.

In acute febrile disease we are to take into consideration, aside from the fact of warding off threatened asthenia, the intensity of the pyrexia, the cerebral symptoms, and the state of the digestive and assimilative processes. The existence of pyrexia in itself, uncomplicated by any other signs, does not call for the employment of alcohol; once, however, the indications arise and are recognized, measures should be immediately taken to counteract or avert any threatening danger. Under whatever circumstances it is deemed necessary, its administration should never be left to the hands of the patient. Let me state here also that in the insufficient and thus imperfect administration of alcoholic stimulants in acute febrile disease, especially when accompanied by symptoms of adynamia, we permit the tendency to danger to increase; this would be obviated by a stricter attention to the indications presented for their employment in the course of the disease; again, not infrequently the injudicious and excessive administration of alcohol, especially in the form of brandy or whisky, undiluted, leads to a gastritis, more or less complicating the disease. Let the fact that alcohol requires no digestion be kept in view. It is rapidly diffused throughout the system, this diffusibility being more rapid when it is given undiluted; the indications for administering it in an undiluted form are, however, few.

The stronger alcoholics, when diluted to from five to ten times their bulk with water, in febrile disease, act both as diuretics and as diaphoretics, in that the activity of the kidneys and sudorific glands is markedly increased.

As the febrile condition advances, the quantity of alcohol is to be proportionately increased, the reverse being the case upon the gradual decrease of the pyrexia and toward convalescence; when, however, with the decrease in the pyrexia, asthenia supervenes more or less rapidly, as in the later stages of typhoid fever, pneumonia, and diphtheria, stimulants are to be administered freely and often without reserve; the appearance of adynamia, in these cases especially, frequently precludes efforts at nourishing the patient, in consequence of a decided lessening or failure in the power of the gastric juice to form peptones. To support the failing powers, therefore, our main dependence must be on the employment of stimulants.

In persons ill with acute disease, and previously anæmic and reduced in strength, the necessity for alcoholic stimulants is more urgent than in those previously healthy and plethoric.

In phthisis and other wasting diseases, the indications for an alcoholic stimulant are undoubted; aside from its property of retarding waste of tissue, I believe its happy action is due partly to its solvent action on fats, rendering them more easy of digestion and assimilation.

In sudden collapse or great prostration from recent hæmorrhage, or shock due to severe injuries or surgical operations, or from whatever cause, with feeble or labored heart action and preponderance of blood in the venous system, it is especially indicated, and should be administered in the form of brandy or whisky, undiluted, its analeptic action being desired.

In septic disease, where the powers of life are actually oppressed, as also in puerperal sepsis, the resisting powers of the organism, combined with a sedative and hypnotic action, are best maintained by the administration of alcohol in large doses, frequently repeated; in puerperal sepsis, tepid baths should also be given in this connection, as but recently recommended by Runge, of Dorpat.

In the grave forms of dysentery, with accompanying adynamia, we have an immediate indication for resorting to its use.

In diphtheria, with its tendency to rapid heart failure, little danger exists in what may seem free stimulation; it is indeed surprising to what extent stimulation by alcohol may be carried in severe cases, without producing any ill effects or even signs of intoxication; it is especially in cases marked by toxæmia that, aside from its stimulating property, alcohol is of great value as a food.

In this connection quite recently the question has been propounded as to whether the sudden deaths after diphtheria may not be due to thrombosis or embolism of the pulmonary artery, through the power of alcohol to coagulate the albumin of the blood, induced by free stimulation? The question is no doubt an appropriate one, but I have failed to find any record of such an occurrence, and in my own mind I doubt it very much, in so far as it may be induced by alcohol, as numerous cases have been reported of sudden death from diphtheria where no alcohol was administered in the course of the disease.

In the later periods of life the necessity for stimulants is always greater, and in whatever febrile disease, where the patient is addicted to the free use of alcohol, the latter should never be withheld.

In nervous diseases great care and discrimination should be exercised, there being but little indication for the application of alcoholic stimulants.

Where there exists an aversion to liquors, the dry or what are termed stronger wines, because of their richness in alcohol, are also indicated in febrile disease and states of prostration.

In chronic diseases with more or less anorexia, the giving of the red or lighter wines, because of their tonic character, will be found beneficial in increasing the appetite and aiding the digestion of food; again, in individuals possessing but feeble powers of resistance, especially in the aged, the administration of lighter or even the stronger wines in moderate doses will prove especially beneficial.

In this connection I would refer to the effervescent or sparkling wines, especially champagne; containing but a small percentage of alcohol and because of the presence of the carbonic acid, it is especially serviceable, not only as a quick stimulant and restorative in cases of exhaustion, but in allaying gastric irritability and obstinate vomiting, it being retained where other measures of treatment are rejected and prove futile; in numerous instances I have found it the best and only diffusible stimulant to be employed, its rapidity of action and exhilarating power being in all probability due to a vinous ether diffused by the liberated carbonic acid.

In all cases in which it is necessary to support life by nutritious enemata the addition of alcoholic stimulants will be found of service, as also in accelerating their absorption.

Its use hypodermically, in sudden collapse or shock after surgical operations, is so well known that I refrain from any further mention of it.

In this connection it would be well to state that in affections of the bladder and urinary organs, especially the various forms of Bright's disease, in the various hepatic affections, and in cases of gout and rheumatism uncomplicated by severe endocarditis or pericarditis, alcohol is contra-indicated.

Finally, that the adulteration of liquors and wines has a distinct bearing upon a discussion of the therapeutics of alcohol seems to me evident, inasmuch as in its employment we apply the various liquors and wines, greatly because of their bouquet and flavor, in place of alcohol in its pure state; when desiring its true physiological effects, therefore, we are to be careful always to ascertain and select a pure article.

A *résumé* of the preceding may be tersely given as follows:

1. In alcohol we have one of the most powerful and substantial agents in the treatment of disease, combining, aside from its stimulant effect, antithermic, paratriptic, alimentary, and tonic properties.

2. The mechanism of its favorable action upon the animal organism and its utility in disease, more especially acute febrile disease, may be explained in several ways: (*a*) by its dynamic action, particularly in greatly lowered arterial tension, in increasing and sustaining the vital powers, through its action upon the vascular system and nerve-centers; (*b*) by its antithermic or apyretic property, in causing a reduction of temperature apparently proportionate to the amount of alcohol ingested; (*c*) by its alimentary and paratriptic property, due to its own combustion and oxidation, thus retarding disintegration and oxidation of the tissues.

3. No routine practice can be followed in the use of alcohol in disease; each case should be treated upon its merits and the indications presented; because of the advantages accruing in most, its unqualified recommendation in all diseases is not to be thought of; in this way it should be prescribed like any other drug or therapeutical measure.

4. Finally, measures adopted with the view of modifying or protecting any changes that take place in the tissues in disease are certainly legitimate and rational in procedure.

HYDROPHOBIA

AS A CANINE STATE OF URÆMIC POISONING.

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> "*Vulnificus vermis suffunditque ora veneno.*"—FRACASTORIUS, "Alcon, sive de cura canum venticorum."
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> "*Est vermiculus in lingua canum qui vocatur a Græcis lytta.*" —PLINY, "Historia naturalis," Book xxix, chap. 32.

Definition.—Hydrophobia in man is a disease of the nervous system due to the inoculation of a specific poison contained in the saliva of rabid animals of the canine and feline race. In animals of the genera *Canis* and *Felis*, comprising those animals whose skins have no excreting functions, the disease is a disease of the blood, with consequent nervous phenomena. Urea, the alkaloid of the animal kingdom, is transferred from the blood to the secretions of the mouth, and is there developed by a fermentative change, under the influence of the disordered nervous system, into the ptomaine constituting the virus of the animal.

History.—Of the antiquity of hydrophobia there can be no doubt, though all attempts to establish the exact period when the disease first made its appearance seem fruitless. The subject is probably mentioned by Hippocrates, for we find in the first book of "Prorrhetics," text 16, the following passage: *οἱ φρενιτικοὶ βραχυπόται ψόφω καταπλὸμενοι τρομώδεες*, and in the "Coacæ Prænotiones," text 96, the same word *βραχυπόται.* Galen explains that by *βραχυπόται* Hippocrates means those fever patients who drink seldom and in small quantities; but the rest of the sentence *ψόφω καταπλὸμενοι τρομώδεες*, showing that some patients, "drinking little," are thrown into convulsions and tremors by a slight noise, should throw some doubt on Galen's statement.

Pausanias, in his "Travels in Greece" (Book ix, chap. 11), alludes to the story of Actæon being torn into pieces by his fifty hounds in punishment of surprising Diana at the bath, and thinks that the foundation of the story rests upon the fact that Actæon's dogs were rabid. As far back as the "Iliad" we find Homer employing the figure of canine rage to represent the fierce and uncontrolled passions of the warriors, thus showing that the disease was known in his day.

He alludes to the baleful influence exerted by the dog star, or "Orion's Dog," upon the health of mankind. In the "Eighth Iliad" we read where Teucer calls Hector "*κύνα λυσσητῆρα*," literally a "mad dog," and in the "Ninth Iliad" we find that the wily Ulysses, speaking of Hector, says "violent madness," *λύσσα*, seized him, and tells how he raged frantically, gnashing his teeth.

Again, in the "Thirteenth Iliad," Hector is called "*Λυσσώδης*" by Neptune. It must be observed that the words *λύσσα* and *λυσσώδης* mean this particular state which we term hydrophobia, and were used to denote the madness of dogs by Aristotle, Galen, Plutarch, and others. Andreas, of Caryste, a physician of the Alexandrian school, left a work upon the disease, called "Κυνόλυσσος." Artemidones, of the same school, also treated the disease, locating it in the stomach. When we come to Democritus and Aristotle, in the fourth century B. C., we find reference made to the disease. Aristotle, in his "Historia animalium," described it, using the same name, *λύσσα*, and, strangely enough, maintains that man, by inoculation, is exempted from the general susceptibility to the disease. Celsus, three centuries after Aristotle, made the disease his particular study, and held an opinion that the bites of all animals were dangerous from the presence of a virus. Vergil, in his "Georgics" (Book iii, 496), classes rabies among the diseases of cattle, and holds it is induced by an unhealthy state of the air. Scribonius Largus, in the time of Claudius, writes of the malady, and asserts that recovery is impossible.

Gratius Faliscus, a contemporary of Ovid, held the disease to be favored by an abnormal condition of the tongue, and by the development of "sublingual lyssa." Pliny, in his "Historia naturalis" (Book xxxix, chap. 32), maintains this same opinion, and in the same chapter writes of a sediment from the saliva being found under the dog's tongue.

Ovid states that hydrophobia is an incurable disease. Cælius Aurelianus, a native of Numidia, who lived in the time of Trajan and Hadrian, treats of the affection in a better manner than other ancient authors.

Pedanius Dioscorides, of Cilicia, takes note of the disease in his "Materia medica" about this period, and says cauterization is the means to prevent the onset of the malady. Plutarch and Le Clerc assert that it first appeared in the time of the Asclepiades, who practiced medicine in Rome about the sixty-second year of the Christian era. In the third century Claudius Ælianus, of Præneste, Claudius Galenus, of Pergamus, and Olympius Nemesianus, a poet of Carthage, described hydrophobia. In the fourth century, Oribasius, of Pergamus, physician to Julian the apostate, wrote of the malady, and held it to be fatal ("Synopsis," Book viii, chap. 13). In the sixth century, Theomnestus, in his "Geoponica," and Aetius, of Mesopotamia, both treat of the affection. Paulus Ægineta, in the seventh century, writes of it in his "Re de medicinæ" (Book v, chap. 3). The first mention of hydrophobia in England is in the revisal of the code of laws of Howel the Good of Wales in the year 1026 A. D. ("Gwentian Code," Book ii, chap. 32). The disease and remedies are also mentioned in another early Anglo-Saxon work of the eleventh century, and entitled "Medicina de quadrupedibus."

Thus do we see that the disease has prevailed almost from time immemorial, and it is but reasonable that those lower animals who are subject to the disease, having existed from the beginning, must have been as liable then as now to a disease that follows the unchangeable laws of animated nature.

Causes.—To name a disease from one of its symptoms is always improper, as it is apt to mislead in the investigation of more important considerations, and, although the term hydrophobia is seemingly true of a symptom, yet it is in truth a misnomer.

Therefore in this investigation I shall take the liberty of calling the malady "The Canine State of Uræmic Poisoning."

Such, to my mind, is the disease developed in the dog, and the phenomena of the nervous system expressed in convulsions, etc., are the effects of a morbid condition of the blood and not a disease of the nervous system *per se.* Animals of the canine and feline race are known to have no cutaneous perspiration, it being commonly said that they perspire by the tongue. This time legend finds itself by chance nearly to agree with the data of science. In dogs we know that the normal respiration is from twenty to thirty a minute, but, if they are allowed to exercise violently or placed in a great heat, the respiration is accelerated to three hundred and fifty or more a minute. This quickening of respiration of animals that do not perspire has clearly for its end a compensative action for the want of cutaneous perspiration by the pulmonary evaporation and consequent refrigeration of the body, the salivary glands also playing a very important part in accomplishing the same end. In man and the other animals the eliminating function of the skin is of undeniable importance and bears a very close relation to the offices of the kidneys.

Development takes place from the general to the special, in man the mesoblast forming both the cutis and the internal genito-urinary organs, and, though the functions of both may seem to differ, yet both retain functions of their common property. So the occurrence of urea and other salts in both excretions is not a mere analogy, but a fact showing that under certain abnormal conditions the skin and kidneys possess the power of acting for one another. All disease is not due to inflammation or pus formation, but a toxic agent, pretty sure to be written CHNO, with varying equivalents, circulating in the blood gives rise to systemic or blood diseases.

Urea, CH_4N_2O, the animal alkaloid, being unduly retained in the blood from an arrest of or inadequate functions of the kidney, creates that morbid condition known as uræmia, acting by a ptomaine as the ptomaines typhotoxine ($C_7H_{17}NO_2$), tetanine ($C_{12}H_3N_2O_4$), choline ($C_5H_{15}NO_2$), and cadaverine ($C_5H_{16}N_2$) act, they having the same reaction as their analogues the vegetable alkaloids, strychnine ($C_{21}H_{22}N_2O_2$), morphine ($C_{17}H_{19}NO_3$), and atropine ($C_{17}H_{23}NO_3$). The composition of the urine of the human subject gives urea 15 to 20 parts and the solid constituents from 30 to 60 parts per 1,000, the proportion being less in the *Herbivora.* In the canine and feline races the amount of urea and of the other salts is very largely increased, being in the dog 30 parts of urea or 67 parts of the solid constituents to the 1,000 parts, while in the cat urea shows 132 parts to the 1,000. The kidney in these animals is an organ essentially vascular in its texture, and, though small, is prone to dangerous inflammations from its vascularity and from the frequency and rapidity with which its secretions are performed. Thus, having noted in these animals the mutual want of dependence between the skin and kidneys, the formation of the kidney, and the composition of the urine, it seems but reasonable that in animals of this class the state of uræmia should be prone to occur, and, from these considerations, I am induced to adopt the opinion that hydrophobia in the dog is a state of uræmic poisoning, the ptomaine being produced by a fermentative action of the disordered nervous system. The deleterious influence exerted upon the secretions by the disordered nervous system has long been observed, and numerous familiar instances are quoted in works on physiology, such as convulsions in the nursling after violent anger or fatigue on the part of the mother, both in the human race and in the lower animals, death from the bite of an angry man or an angry rat, and other examples unnecessary to enumerate.

When hydrophobia follows a bite by a rabid animal there is a period of incubation, and I can see nothing fanciful in reasoning that during this time of incubation a poison is being elaborated which, by its absorption, acts upon the spinal cord and medulla oblongata by a selective action, producing nervous phenomena resembling poisoning by the vegetable alkaloids. There seems scarcely a prominent phenomenon of this disease in the dog but admits of an explanation by the corresponding phenomena of uræmia in man.

Symptoms in the Dog.—Identity of cause always implies identity of effect, and so the effects upon the nervous system are expressed in strikingly similar phenomena, as the brain, nerves, or muscles are affected in uræmia in man and in hydrophobia in the animal.

Bouley, with a discretion better than valor, says a sick dog is always to be suspected.

Three forms of rabies are known in the dog—viz., the furious, the paralytic, and the lethargic. A morbid appetite is present, showing, by a characteristic post-mortem appearance, thread, straws, and such other foreign bodies in the stomach. Optical illusions, and often complete amaurosis, are present which, in uræmia in man, constitute important symptoms. Both diseases materially affect the lungs, often to the extent of causing death by asphyxia in both. The stomach in hydrophobia is congested and is the seat of blood extravasations and erosions, while in uræmia the same appearances are to be seen, being due in both cases to the effort to eliminate the accumulated toxic urinary constituents through the gastro-intestinal mucous membrane, and so giving rise to a regular symptom of both diseases, vomiting. Reynal has insisted upon the value of the vacuity of the bladder as a sign of rabies in the dog, and in fifty-three cases noted by Lafosse there was but one exception. The kidneys are hyperæmic, and show the same changes in structure as in uræmia. The small amount of turbid urine passed gives a great amount of albumin. In uræmia, paralysis of sensation appears in the extremities, and in hydrophobia paralysis attacks the extremities, the animal staggering about and often falling. Contraction or spasm of certain muscles is observed to precede convulsions in uræmia, being in hydrophobia a prominent and characteristic symptom.

The fauces are congested and swollen greatly and the salivary glands show great inflammatory changes, due, from the state of the kidneys, to overwork in eliminating urea from the blood, and so giving rise to the characteristic attempts to dislodge some offending substance from the mouth, the taste of the urea in the saliva. These symptoms, together with a high irritability of temper, are followed by paroxysms of fury ending in convulsions and death.

Period of Incubation.—Cælius Aurelianus observes that some fall ill sooner after the bite than others, but that most persons perceive it after forty days, though some are a year or more before they are sensible of its effects. Galen is much of the same opinion, while Paulus and Actuarius agree with him.

The period of incubation varies in the dog from six days (Pasteur) to two hundred and forty days (Bollinger); but, as a rule, it ends in the majority of cases in from twenty to fifty days. Pasteur, by inoculating directly into the brain, reduced the period from twenty to six days. In man it is more prolonged. In five hundred and fourteen cases collected by Trolliet, Tardieu, and Hawkins, three hundred and fifty-three had developed the disease within three months from the reception of the bite, and only twenty after six months had elapsed. In 6 per cent. of all cases it is from three to eighteen days; in 60 per cent., from eighteen to sixty-four days; and in 34 per cent. it exceeds sixty-four days (Hamilton, Thamhayn). All cases of prolonged incubation are very doubtful, and it is safe to say that if a year has elapsed from the reception of the bite without any effects manifesting themselves, the patient is perfectly safe from the disease.

These protracted cases are probably simply cases of phobo-hydrophobia, being the result of fear, especially in debilitated constitutions, and yield to no treatment save by a moral cauterization of the mind.

The period of incubation is shorter in the young—being about forty-five days as an average—than in the old, where it is about seventy days, and is, moreover, shortened by constitutional excesses, extremes of heat, fatigue, etc.

Diagnosis.—In cases of hydrophobia the diagnosis is comparatively an easy one, the symptoms being, as a rule, well marked and so linked as to make the diagnosis a positive chain of evidence. Perhaps the most difficult is that between hydrophobia and phobo-hydrophobia, and the practical physician will be as loath to encounter one as the other, as the imaginary disease is as fatal as the real. There is always a history of a bite, the cicatrix becoming inflamed and painful, and followed by the same train of symptoms in both cases.

Hydrophobia resembles tetanus, in both the reflex functions of the spinal cord being greatly excited, and peripheric irritation causing spasms. The primary cause of both is a wound, and both are produced by the action of a ptomaine. In hydrophobia mental symptoms are present; in tetanus they are absent. The convulsions of hydrophobia are clonic in character, while those of tetanus are tonic. In tetanus there is trismus and the act of swallowing is difficult; in hydrophobia it is impossible. The period of incubation of tetanus is shorter than that of hydrophobia, and a considerable number of patients recover, while the prognosis of hydrophobia is very far worse. From hysteria the diagnosis is very simple, as the difficulty of swallowing constitutes the only common symptom. Other hysterical symptoms and the absence of a history of a bite clear the diagnosis. From acute mania the diagnosis is made by the hydrophobic symptoms of both the difficulty of breathing and of swallowing, and by the intervals of consciousness between the paroxysms.

The convulsions of epilepsy are in themselves the diagnostic features, as they are not produced by noise, attempts at swallowing, or movement.

Treatment of Bites.—It is of the first importance to give immediate attention to the bite, as the delay of every minute in the operation of excision or cauterization is attended with self-multiplied risk. If the bite is on a limb, the tourniquet (a handkerchief in an emergency) should be placed about it, and suction by the lips of the wounded person be made. A cupping-glass must be used if the situation of the bite will not allow of suction by the patient. The lips of a second person should never be placed to the wound, as there is not positive proof that the poison may not be absorbed through a mucous membrane, and there is always danger of a slight abrasion of the lips or of a decayed tooth. After suction for half an hour, a piece of wood dipped in ink should be applied to the wound and all the tissue stained by the ink should then be excised. The wound is to be kept opened by a blistering agent. In a badly lacerated member amputation is advisable.

Therapeutic Treatment.—Almost every agent in the Pharmacopœia has been employed as a remedy, but beyond relieving this or that symptom has done no permanent good, and has been retired to give place to other preparations. It is not necessary to notice the empirical advice of Galen, Pliny, Celsus, and others that were accredited at their time, but passed away with their authors. It is necessary, though, for a rational plan of treatment, to know the characteristics of the poison, and so how best to meet its advance. During the period of incubation this poison is being elaborated, which presently acts powerfully as a toxical agent upon the spinal cord and medulla oblongata, and it is necessary, therefore, that the nervous system be withheld from the arena of action by the most oblivious rest until the poison is exhausted or neutralized.

Therefore the most profound narcotism compatible with life should be long continued by means of the potent nerve sedatives and antispasmodics. Of these, there may be mentioned as the most important curara, cannabis indica, chloroform, and chloral hydrate. The inhalation of nitrite of amyl overcomes the spasms of the muscles, so allowing food and drink to be taken.

Professor Yonatt placed great faith in lunar caustic, and successfully used it in four hundred and five cases of bites from rabid animals, but to fall at last a supposed victim to the dread malady.

The non-medical therapeutic measures constitute a most important factor in the treatment of hydrophobia. Perfect seclusion, darkness, and quiet must be maintained. The bed should be hung with heavy curtains to exclude light, all small sounds, and waves of air. The attendants should discard all stiff and consequently rustling garments, and avoid all such sounds as the pouring of fluids.

While the prognosis of hydrophobia is most unfavorable, no well-authenticated case of it having ended in recovery, yet much may be done for the relief of the patient. It is a most acute disease for which we have no specific, unless by Pasteur's inoculations with the modified virus we find the true cure for so dread a malady.

Correspondence.

LETTER FROM LONDON.

Mr. Jonathan Hutchinson on a Form of Epithelial Cancer attributed to the Prolonged Internal Use of Arsenic.—The late Sir George Burrows, Bart., F. R. S.

LONDON, *December 13, 1887.*

At the last meeting of the Pathological Society, that indefatigable worker, Mr. Jonathan Hutchinson, read a paper on "Arsenic Cancer." His proposition was that the internal administration of arsenic in large doses over long periods of time might produce a form of cancer which was of the epithelial variety and presented certain peculiarities. He showed a drawing of the foot of a gentleman who had taken arsenic for psoriasis for many years; a corn on the sole of the foot ulcerated, and at first had the appearance of a perforating ulcer. Perfect immobility was not followed by any improvement; the palms of the hands also became affected, and small corns developed. The growth in the foot was excised, and the patient recovered. The microscopical examination was inconclusive. He also showed drawings of the hands of an American physician who had taken arsenic for a long time in considerable doses. A rough condition of the palms and soles developed, though the psoriasis was cured. [The early growths in these cases were corns, and not warts, and were never papillary.] A growth then formed on the front of the left wrist, in the subcutaneous tissues, the other hand also became affected, and the growths perforated the skin and became fungous. They had the appearance of syphilitic growths, but the patient had never had syphilis. The growths were scraped away and excised. Microscopical examination was at first inconclusive, but afterward the opinion that the disease was cancer gained ground. Antisyphilitic remedies were fairly tried, but without benefit, and both hands were amputated. The patient died eighteen months later. Nodules of epithelial cancer were found in the axillary glands on the left side, in both lungs, in the suprarenal capsules, and elsewhere.

Mr. Hutchinson also showed drawings from another case of a lesion of the palms exactly resembling the corns seen in the above-mentioned cases. This patient had a cancerous growth in his neck, and took arsenic in large doses for months together. The skin became muddy and thick, and patches like psoriasis developed upon the elbows and other parts, but in the palms and soles the corny masses were not followed by cancer. In another, the patient, a lady aged twenty-five, who had taken arsenic for pemphigus for many years with intermissions, developed an ulcer on the crest of the ilium; the glands enlarged, and a tumor formed in the thigh, resulting in her death. And in another instance a man, aged thirty-four, who had taken arsenic for a long time for psoriasis, presented a number of corns on his hands and feet, and subsequently developed epithelial cancer of the scrotum.

Mr. Hutchinson thought that the facts he had brought forward warranted the opinion that the arsenic was the cause of the cancer in the cases given. The chief points brought forward by subsequent speakers in opposition were that cancer was not particularly common in the fen districts, where arsenic was taken in very large quantities for the cure of ague, and that cancer was not especially prevalent among the inhabitants of Styria, whose propensity for eating arsenic was so well known. Sir James Paget thought it could not be doubted that arsenic had the power, in persons predisposed to it, to determine the development of cancer. Mr. Hutchinson, in reply, briefly pointed out that the early diagnosis of cancer by the microscope was very misleading, and called attention to the fact that eruptions produced by arsenic were never symmetrical.

Sir George Burrows died two days ago, at the great age of eighty-seven. Like many other distinguished medical men, he was educated at Caius College, Cambridge, where he took very high mathematical honors and obtained his fellowship. Having determined to follow his father's profession (for his father was a medical man, at one time engaged in the treatment of the insane), he entered at St. Bartholomew's Hospital, where he soon made his mark, and was thought so highly of by the authorities that he was appointed on the staff when they decided to make a new appointment of assistant physician to the hospital; before that time there had only been physicians, and no persons were treated as out-patients. Dr. Burrows's duties were at first confined to treating those who had been in the wards, but who required further medical advice. Eventually he rose to the very highest distinctions in the profession, being president of the College of Physicians and of the General Medical Council. He was a courteous and accomplished physician, well able to sustain the reputation of the profession in the high position he was called upon to fill.

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CADAVERINE AND SUPPURATION.

Ever since Brieger's important discovery of the ptomaines, a number of acute observers have been investigating the relation of those alkaloids to the various micro-organisms and to the causation of morbid processes. Prominent among them is Grawitz, whose recent article in the "Archiv für pathologische Anatomie und Physiologie und für klinische Medicin," on the significance of cadaverine in the production of suppuration, is both instructive and interesting. He found that the pure alkaloid contained no bacilli, and, further, that from two-and-a-half to five-per-cent. solutions of it completely destroyed the *Staphylococcus aureus* within an hour. Another series of experiments showed that an exceedingly small addition of cadaverine to cultivation gelatin was sufficient to delay the growth of pus cocci or to prevent it entirely. Cadaverine, therefore, belongs to those alkaloids of putrefaction which, even in the smallest quantity, destroy the nutritive qualities of cultivation media for other bacteria. The producers of cadaverine must, in consequence, be looked upon as antagonistic to the *Staphylococcus aureus.*

On the other hand, cadaverine of itself is capable of exciting suppuration; for the author found, in a series of experiments, that the subcutaneous injection of solutions of the alkaloid free from any germs was followed, according to the quantity and the strength of the solution, either by inflammation and subsequent suppuration, or by inflammatory œdema ending in absorption and simple recovery. Rats and mice were found poorly adapted for these experiments; on account of the thinness of their skin, sloughs were readily produced. Even in rabbits and guinea-pigs the results were not satisfactory, for in them the subcutaneous injection was followed either by a caustic effect or, if the solution was very weak, by simple absorption. But the best results were obtained with dogs, in which from 0·3 to 0·5 c. c. of a five-per-cent. solution caused suppuration, which was observed as early as the third day.

In another series of experiments Grawitz made subcutaneous injections of the cadaverine solution containing the *Staphylococcus aureus* or the *Streptococcus*, with the result of producing a severe phlegmon in the surrounding tissues, followed by necrosis of the skin. The pus from this phlegmon was found to contain, in addition to various other cocci, those that had been contained in the solution. From these experiments it follows that cadaverine has the property of setting up suppurative inflammation, and that, in instances where living pus cocci are present, these cocci increase the suppuration and cause it to extend to the neighboring tissues. Of all chemical compounds, the alkaloid seems most to resemble ammonia in its local action.

MINOR PARAGRAPHS.

ANTIPYRINE IN SEPTIC FEVER.

Professor Verneuil, of Paris, as our Paris correspondent informs us, calls attention to an important action of antipyrine in surgical septic fevers, as illustrated in two cases lately observed in his service at the *Pitié*. The first was that of a man who was suffering from osteitis of the superior extremity of the humerus. M. Verneuil performed resection, but, notwithstanding this operation, the general state of the patient remained bad. His temperature ranged between 38° and 39° C. [100·4° and 102·2° F.], he had no appetite, and the digestive tract would not tolerate any form of medication; so that the man was in a dying state, when a rectal injection of two grammes [half a drachm] of antipyrine was given, night and morning, with the result that the fever fell, and at present the man is in a very fair way to recover. The second case was that of a woman who, following a carbuncle of the neck, had an abscess of the iliac region, which was opened, drained, and treated with perfect antisepsis with apparent success, but her general condition remained bad, and she had a high temperature, etc. The same form of treatment with rectal injections of antipyrine cured her also. This seems to indicate an important mode of action of this drug in surgical or septic fevers.

THE PERITONEAL COAT OF THE CÆCUM.

We have been much interested in a letter to the editors of the "New Orleans Medical and Surgical Journal," by Dr. Rudolph Matas, of New Orleans, to whom we are indebted for a copy in pamphlet form. Dr. Matas shows conclusively, by citations from the writings of Luschka (whose first article on the subject was published in 1861), Hyrtl, Henle, Langer, and Heitzmann, that the views now getting to be largely entertained that the cæcum has in most instances an entire peritoneal investment, and that cæcal herniæ have a sac like that of a typical hernia, should not be credited to Mr. Frederick Treves alone. It is undoubtedly true that Mr. Treves arrived at his conclusions by original observations, and that it is to his graphic teaching that the views maintained a quarter of a century ago by Luschka, and by Bardeleben before him, are now in a fair way to be generally accepted in other countries than Germany. The occasion of Dr. Matas's letter is the credit given to Mr. Treves alone in the last edition of Gray's "Anatomy." He not only gives an exceedingly interesting and convincing account of the facts in the case, but furnishes a notable example of clear and courteous writing.

THE DILATATION OF STRICTURES OF THE RECTUM WITH BARNES'S BAGS.

A recent number of the "Canadian Practitioner" contains an interesting abstract of a communication made to the Canadian Medical Association by Dr. L. M. Sweetnam, of Toronto, on "Stricture of the Rectum." In two cases that had resisted long-continued treatment with bougies, it occurred to Dr. Sweetnam to use Barnes's uterine dilators. At first he found that, although some dilatation was accomplished, but little impression was made upon the symptoms, even when a number of bags were introduced one after another. At length, however, he ascertained that much of the force of the injection was expended in dilating only a portion of the bag—the part where there was least resistance. He then conceived the ingenious idea of limiting the dilatability of the bags by means of an oiled-silk covering, thus securing equable dilatation. The adoption of this device not only produced relief that had persisted up to the time of his report, more than six months, but also made the use of the bags less painful. The advantages of Barnes's dilators for this purpose seem to Dr. Sweetnam to be that they are easily placed in position; that they may be carried a great distance into the bowel; that a high degree of force may be employed with comparative safety; that all the power is directed to the dilating of the stricture; that there is no severe stretching of the anus; that no irritation is produced in attempting to insert the instrument into the stricture; that the pressure is exerted in parallel lines; that the dilator is economical; and that it may be made of any desired length or diameter.

ANTIPYRINE IN THE TREATMENT OF BRONCHITIS.

In the "Therapeutic Gazette" for December, attention is called to the action of antipyrine in controlling catarrh of the air-passages, both in its simple form and when it occurs as a complication of scarlet fever. Credit for first having brought this therapeutical point to the notice of the profession is given to Dr. Julius Friedländer, who published an article on the subject in the "Therapeutische Monatshefte" for August of this year. Our contemporary is mistaken in assigning priority in this matter to the German author. In our issue for July 24, 1886, Dr. B. F. Westbrook, of Brooklyn, in a lecture on "The Diagnosis and Treatment of Diseases of the Chest," recommended antipyrine in the following words: "Another agent which, in my hands, has appeared to have a very beneficial effect in simple inflammatory capillary bronchitis and broncho-pneumonia, the only forms in which I have used it, is antipyrine. I have given it dissolved either in water with the syrup of Tolu, or in equal parts of an elixir of calisaya and Curaçoa cordial. In small doses, say two or three to five grains, every three hours, to a child under five years old, it appears not only to reduce the temperature, but to allay the local inflammation. It may be alternated with some mild alcoholic stimulant. If the secretion is not too copious, the iodide of ammonium is valuable. It may be combined with a small dose of paregoric, just enough to soothe the nervous system and quiet the cough if it is harassing and ineffectual; and the aromatic spirit of ammonia, glycerin, and water complete the mixture."

SMALL-POX IN ALABAMA.

The State Board of Health of Tennessee, in its "Bulletin" for December 15th, mentions a recent outbreak of small-pox at Morganville, Alabama, a town a little south of Montgomery, on the Louisville and Nashville Railroad. The "Bulletin" remarks upon the very frequent and intimate intercourse between Alabama and the three divisions of Tennessee, and warns the local officials that the responsibility will rest upon them if a destructive epidemic of the disease visits any portion of the State. It thinks that perhaps seventy-five per cent. of the people of Tennessee are not protected by vaccination.

ITEMS, ETC.

The Health of New York City.—During the five weeks ending Tuesday, December 27th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: 74 cases of typhoid fever and 27 deaths; 599 cases of scarlet fever and 90 deaths; 18 cases of cerebro spinal meningitis and 14 deaths; 230 cases of measles and 24 deaths; 895 cases of diphtheria and 267 deaths; 5 cases of small-pox and 3 deaths.

The Health of Boston.—During the week ending Saturday, December 24th, the following numbers of cases and deaths from infectious diseases were reported to the Board of Health: Diphtheria, 26 cases and 8 deaths; scarlet fever, 63 cases and 19 deaths; typhoid fever, 11 cases; measles, 11 cases and 1 death. There were also 19 deaths from consumption, 15 from pneumonia, 3 from whooping-cough, 13 from heart disease, 15 from bronchitis, and 3 from marasmus. The total number of deaths was 172, against 187 during the corresponding week last year.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 27, 1887:

DISEASES.	Week ending Dec. 20.		Week ending Dec. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	4	12	5
Scarlet fever	128	18	117	20
Cerebro-spinal meningitis	4	2	4	3
Measles	36	4	70	8
Diphtheria	195	56	138	58
Small-pox	3	1	1	1

The Kings County Medical Association will meet in Brooklyn on January 3d. A discussion on "Fever" will be opened with papers by Dr. McCollum and Dr. Rochester, who will review and analyze Dr. Austin Flint's address on that subject read at the recent International Medical Congress. It is expected that Dr. Flint will be present and take part in the discussion.

Intestinal Antisepsis.—The following is M. Dujardin-Beaumetz's method: Into a vessel containing over a pint put 400 grammes [6,000 grains] of water, 25 grammes [375 grains] of sulphide of carbon (pure), and 50 drops of essence of mint. Shake the mixture and allow it to settle. The sulphide of carbon will remain at the bottom; use only the liquid part. Of this sulpho-carbonated water he gives from eight to ten teaspoonfuls in twenty-four hours, in hourly doses, in half a glass of milk or lemonade, in all cases of typhoid fever.

A Recruit's Varices.—An amusing and true story is told in Paris of an army surgeon who was examining some recruits, and, not wishing to strip them, asked one of them if he had varices. Yes, he said, he had, but he had forgotten to bring them.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 18 to December 24, 1887:*

Biart, Victor, Captain and Assistant Surgeon. Relieved from further duty in the Department of Dakota. S. O. 293, A. G. O., December 17, 1887.

Swift, Eugene L., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Spokane, Washington Territory. S. O. 293, A. G. O., December 17, 1887.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending December 17, 1887:*

Hudson, A., Medical Inspector. Ordered to the Trenton.

Bates, N. L., Medical Inspector. Detached from the Trenton, and placed on waiting orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending December 19, 1887:*

Murray, R. D., Surgeon. Granted leave of absence for fourteen days. December 8, 1887.

Gassaway, J. M., Surgeon. Granted leave of absence for fifteen days, to take effect when relieved. December 17, 1887.

Irwin, Fairfax, Surgeon. Relieved from duty as acting chief clerk, Office Supervising Surgeon-General, and to await orders.

Carrington, P. M., Assistant Surgeon. Ordered to examination for promotion. December 14, 1887.

Brooks, S. D., Passed Assistant Surgeon. Granted leave of absence for thirty days, to take effect when relieved. December 15, 1887.

McIntosh, W. P., Assistant Surgeon. To proceed to Wilmington, N. C., for temporary duty. December 13, 1887.

Magruder, G. M., Assistant Surgeon. Granted leave of absence for twenty-one days. December 19, 1887.

Society Meetings for the Coming Week:

Monday, *January 2d:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *January 3d:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi-annual—Lockport), N. Y.; Hudson, N. J. (Jersey City), and Union, N. J. (quarterly), Medical Societies; Androscoggin, Me., County Medical Association (annual—Lewiston); Chittenden, Vt., County Medical Society.

Wednesday, *January 4th:* Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society (regular).

Thursday, *January 5th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Washington, Vt., County Medical Society (annual—Montpelier).

Friday, *January 6th:* Practitioners' Society of New York (private).

Saturday, *January 7th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Alonzo B. Palmer, M. D., of Ann Arbor, Mich., professor of theory and practice of medicine, and dean of the faculty, of the Medical Department of the University of Michigan, died on Friday, the 23d inst., in the seventy-third year of his age. Dr. Palmer was a native of Richfield, Otsego County, N. Y., and obtained his professional education at the College of Physicians and Surgeons of the Western District of New York, from which he took his degree in 1839, the year before the college became extinct. In 1850 he settled in Tecumseh, Mich., but soon moved to Chicago, where in 1852 he became city physician. In the same year he was appointed professor of anatomy in the University of Michigan, where he afterward occupied successively the chairs of materia medica and therapeutics and of diseases of women and children, until his transfer in 1860 to the professorship which he held at the time of his death. In 1864 he was appointed to the corresponding chair in the Berkshire Medical Institution and to that in the Medical School of Maine.

In all these positions he was an efficient and successful teacher, and a few years ago he wrote an excellent treatise on the practice of medicine. The deceased was a man of positive convictions, and he was accordingly powerful in shaping the opinions of those with whom he came in contact.

Letters to the Editor.

PROFESSOR FAUVEL ON THE VIN MARIANI.

13, rue Guénégaud, Paris, *December 8, 1887.*

To the Editor of the New York Medical Journal:

Sir: Will you kindly have it announced in your Journal, in justice to myself before the medical profession, that the various notices appearing in journals and circulars quoting my name in connection with coca are entirely false and in every respect a prevarication. The only preparation of coca employed by me with undoubted and uniform success has been the so well-known *vin Mariani*, which, since 1865, I have had occasion to prescribe daily in my *clinique*, as well as in private practice. My opinion of this valuable medicament, together with those of many of my *confrères*, has during many years been frequently made known for the benefit of the profession in various writings, and it is but just to this worthy preparation that it receive all honor due. I thank you for compliance with my request.

Ch. Fauvel.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of November 23, 1887.

The President, Dr. J. Solis-Cohen, in the Chair.

The Nature of Labor.—Dr. Henry Leaman read a paper on this subject, which, he said, did not purport to offer a solution of all the theories and problems of labor, but was simply an attempt to throw some light on the phenomena of labor, with special reference to everyday work. In speaking of labor, we understood physiological or natural, not pathological labor. The author proceeded as follows:

"Harvey said that the kind of birth in which the fœtus was born enveloped in its coverings appeared to him by far the most natural; it was like the ripe fruit which dropped from the tree without scattering its seed before the appointed time. This statement is doubtless physiologically correct. But in experience the separation of the elements of the ovum generally occurs, the waters preceding and the placenta succeeding the fœtus, the true process of labor being in no manner altered or changed thereby. Any presentation or position that can be terminated without assistance may be called natural.

"There are only two stages in labor. The first embraces all the phenomena that immediately precede or occur during the dilatation of the cervix. The second embraces all the phenomena that occur during the expulsion of the contents of the uterus. This includes the so-called third stage. If labor has pursued a natural course and due time has been allowed, the placenta will be found loosened by the pains and ready to be removed immediately after the birth of the child. If the placenta is adherent or there is an irregular contraction, the hand can be passed into the cavity to remove it. The duration of the first stage is a very indefinite period, lasting from a few hours to several days or even weeks. The duration of the second stage is a more definite period, varying from half an hour to four hours. The only positive sign that the expulsion of the uterine contents is about to take place is the dilatation of the distended cervix accompanied by regular contracting pains not relieved by opium. Dilatation is not complete until the cervix has expanded enough to allow the exit of the presenting part. Then begins the second stage of labor, and the advancing mass now comes in contact with the pelvic wall.

"The nature of labor consists particularly in the manner in which the uterus expels its contents, not in the mechanism of the pelvis. The fœtal contents are passive in delivery. The life of the ovum in viviparous animals is part of the mother's life, connected through the uterus and placenta, and identified by a mutual growth and development. The uterus is the outer contractile layer of the ovum. When their cyclical development is complete or has been terminated in any way, differentiation or birth takes place. This is accomplished through contractility of the uterus, which gives to the fœtus a series of amœboid movements that cause it to advance through the pelvic opening. The fœtal mass moves under the persuasive action of flexion and rotation produced by the uterus alone; and, in virtue of its adaptation to its surroundings, overcomes great obstacles. The overcoming of obstacles is due not to the amount of force, but to the adaptation of the fœtus to the pelvis. Dr. D. B. Hart, in the 'Obstetrical Transactions,' Edinburgh, vol. v. in a paper on 'The Bearings of the Shape of the Fœtal Head on the Mechanism of Labor,' says: 'It will be seen that the shape of the fœtal head, face, and breech is, to a certain extent, a preparation for the emergencies of birth. In a normal head case in a normal pelvis, flexion and rotation are favored by it. Should the pelvis be rickety, the head, either first or last, still has the shape which favors its passage through the contracted conjugate; and even for minor deviations of face cases and badly rotated occipito-posterior cases, we have the shape of the face and head markedly fitted for the best means of delivery.' The explanation of flexion by Lahs is an advance over the previous theory of articulation of the spine to the occipital bone. Deeper than these phenomena of the mechanism of labor are the force which the uterus exerts and the manner in which it is applied. The abdominal muscles take no part directly in the expulsion of the uterine contents. Their action is to sustain and conserve the uterine contractions. They can not be applied in an effective manner in expulsion. Dr. Hart concludes the paper above referred to with these words:

"'Future observations are still needed as to the shape of the head after labor, as bearing on any peculiarity of mechanism, and I hope that this communication will direct the attention of obstetricians to an interesting field.'

"These moldings which the head undergoes not only teach us the peculiarity of the mechanism, but also enable us to understand the manner in which the force is applied, and also something of the nature of its action. The caput succedaneum found over the parieto-occipital region, which disappears in twenty-four or forty-eight hours, is similar in its formation to the extreme elongation of the occiput in great flexion of posterior rotation or the elongation of the frontal region in frontal presentation, and shows the manner in which the fœtus makes its way by elongation under moderate and gradually applied force.

"This closer study of the mechanism of labor, the study of the placenta, and the changes which the uterus undergoes during gestation and immediately preceding birth, belong more particularly to the gynæcological concept of labor. The progress by which our present standpoint has been reached has been gradual. The first concept was midwifery, which concerned itself with the most external phenomena of labor, such as holding the hands, making pressure on the stomach, administering drinks, comforting the mind of the patient, placing her in a certain position, endeavoring to dilate the vagina; and when nature could not complete the delivery, the surgeon was called to destroy the child and save the mother. The second concept was the obstetrical, and had its origin with the introduction of the forceps, in the early part of the eighteenth century. This has led to the closer study of the mechanism of labor, occupying its time mostly, however, in the study of the fœtal head and pelvis. The third concept dates from the introduction of ovariotomy in the early part of this century."

Abdominal Section for Disease of the Uterine Appendages.—Dr. Charles B. Penrose read a paper on this subject, founded on eleven cases, all successful. The operations had all been performed in 1887, and the patients were at present well and able to attend to their various duties.

In five of the cases the appendages were removed on only one side. In one of these (a case of pyosalpinx and cystic ovaries) the author had found it impossible to remove the left tube and ovary. They were firmly adherent in a knot on the side of the uterus, and the uterus was bound down in the hollow of the sacrum. In the other cases of unilateral removal he had intentionally left the appendages upon one side. Except in the case of dermoid cyst, the women were young and desirous of having children; and at the time of operation he could discover no sign of any pathological condition in either the tube or ovary. He was aware of the fact that in cases of tubal disease it was often unwise to perform a unilateral operation and to leave even an apparently healthy tube, as, in many cases, it subsequently became diseased from an infecting focus in the uterus.

Though sufficient length of time has has not yet elapsed to come to any definite conclusion with regard to his cases, yet so far he had had no cause to regret having left the sound tubes; and in one case the patient had become pregnant since the operation.

A point of interest in connection with the first case (salpingitis and cirrhotic ovaries) was the length of time during which the patient was fed by the rectum. She began to vomit as she recovered from the influence of the ether, and she continued to vomit everything which was administered by the mouth for thirty-six days after the operation. There was no apparent cause for this excessive vomiting. The operation was simple, and was not followed by any obvious symptoms of peritonitis. The rectal injections, by means of which this woman was nourished for over a month, consisted of pancreatized milk, eggs, and whisky. Two thirds of a quart of milk, one egg, and three ounces of whisky were administered in four or five doses during the twenty-four hours. During this prolonged course of rectal feeding she lost many pounds in weight. No food at all was taken by the mouth; the very small quantities which were occasionally administered experimentally were always rejected immediately. When she finally became able to take food by the mouth it was necessary to give it in the form of twenty-drop doses of soup or beef-tea. In the table he had made no distinction among the different forms of non-purulent inflammation of the Fallopian tubes. All thickened, enlarged, adherent tubes which did not contain pus he had put down as cases of salpingitis.

In all the cases of pyosalpinx there was a history of repeated attacks of pelvic pain and inflammation, which often confined the patient to bed for several weeks. In two of the cases of pyosalpinx there was also ovarian abscess. In these cases the abscess cavity in the tube communicated directly with the abscess cavity in the ovary, and the origin of the ovarian abscess was obvious. In Case VII (salpingitis and abscess of the ovary), however, there was no pus in the tube. The tube was enlarged and adherent, and its fimbriated extremity was closed; and it did not communicate with the cavity of the ovarian abscess. The ovarian abscess contained about half an ounce of pus and had a distinct pyogenic membrane. The author thought that abscess of the ovary was of more frequent occurrence than works upon gynæcology admitted. And, though it probably was in general due to oophoritis caused by inflammation of the tube, yet it was not always associated with pyosalpinx. In two cases of double pyosalpinx (Cases V and IX) a thin purulent fluid was found in the peritoneal cavity, and the intestines were found to be deeply congested when the abdomen was opened. The patients had probably been suffering for some time with general chronic peritonitis excited by the escape of pus from the distended tubes. The symptoms, however, before operation had not pointed to general peritonitis, the patients having only complained of pelvic pain and pain in the back. The chance that such a condition might occur in connection with pyosalpinx was a strong argument in favor of removing these abscesses by abdominal section, instead of evacuating them by the vagina, as was so often done.

The danger of assuming any case of peritonitis in a woman to be idiopathic, without a thorough vaginal examination, was obvious. He had the report of a case which had occurred recently, where the patient was treated for several weeks for idiopathic peritonitis, and an operation done a few hours before death revealed double pyosalpinx and a ruptured ovarian abscess.

In six of the cases reported, an abdominal drainage-tube was used. The average time of convalescence in these cases was no longer than in the cases where a tube was not introduced; and the severity of the symptoms following the operation—the elevation of temperature, the rapidity of pulse, and the pain—were much less marked in the drainage-tube cases than in the others. The absence of pain in the drainage-tube cases was probably in part due to the fact that most of them were cases of pyosalpinx, where the tissues which were ligated and cut were so far degenerated that their sensibility was much diminished. He thought that the danger of abdominal hernia following the use of a drainage-tube had been exaggerated. In one of his cases there was now a small hernia, but it had occurred above the position of the tube and was probably due to some error in introducing the sutures. In some thirty drainage-tube cases which he had seen in the practice of Dr. Joseph Price, there had, as yet, been no hernia. It was probable that hernia was due more frequently to a long or a high incision and careless suturing than to a drainage-tube. The average length of time before the glass drainage-tube was removed in his cases had been about five days, the shortest two days, and the longest eight days. In but one case had the discharge from the tube become purulent. The use of a cotton rope to act as a capillary drain added greatly to the value of the glass drainage-tube. It prevented any fluid from remaining in the bottom of the tube, and it removed the deposits of fibrin from the perforations in the glass.

One case was reported at length on account of the interesting phenomena attending the development and the subsidence of the peritonitis, and because it was treated throughout by sulphate of magnesium and rectal injections, and not by opium. And, indeed, he had not found it necessary to use opium in any of the cases reported.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 6, 1887.

The President, Dr. C. L. Dana, in the Chair.

Professional Cramp.—Dr. Waitzfelder related the case of a man, thirty-eight years of age, who had been a cigar-maker for twenty years. He was first seen by the speaker six months ago. Six months before this he had begun to notice a stiffness and awkwardness in forming the head of a cigar. This required a rotary motion of the thumb and index finger. At first he was able to substitute his middle finger in this manœuvre, but subsequently the stiffness extended to this, and finally to the little finger. When he was first seen there was some anæsthesia of the skin, with tonic spasm of the flexors of the fingers. These contractures were partially relieved by rest, although they never entirely disappeared. They were aggravated by any effort to work at his trade and by changes in temperature. A short time ago the patient had tried varnishing, work which required only coarse motions of the hand, but had been obliged to give it up. He had been under treatment for six months, with galvanism, faradism, strychnine, etc., without improvement. Regarding the lesion as central, the speaker suggested stretching the radial nerve with the object of inducing atrophy in the central cells, which might be considered the source of irritation. As Dr. Seguin had seen the case, his opinion was requested.

Dr. Seguin saw nothing which would distinguish the case from one of aggravated professional spasm. He regarded such dyskineses as of central origin, and would not favor nerve stretching. His experience had, in fact, been discouraging in any treatment for professional cramp. A case of waiter's cramp had come under his observation. He mentioned it because it was rare. The man had been a waiter for fourteen years, carrying plates after the manner of his class, until he reached a stage in which he broke dishes and spilled their contents.

Three Cases of Hemianopsia of Peripheral or Neural Origin, with a Study of the Symptom Hemiopic Pupillary Inaction, its Diagnostic Value, etc.—Dr. Seguin read a paper with this title. All the patients were supposed to have a neural, peripheral lesion. All presented the pupillary reaction hinted at by von Graefe and described by Wernicke as the hemiopic pupillary reaction, a symptom never before observed or described in this country.

Case I.—The patient was first seen October 26, 1887, having been referred from the Eye Department of the Manhattan Eye and Ear Hospiral by Dr. Webster. Six years previously he had begun to suffer from headache, mostly frontal, also nausea and vomiting. Two years previously he had suffered from more or less constant pain. For the last few months the headache had been less, but he had lost vision in the left eye. No history of syphilis was obtained. On examination, the right visual field showed temporal hemianopsia outside the point of fixation. The visual field of the left eye was completely blind. Vision was at this time R. E. $\frac{20}{200}$, L. E. 0. Light thrown into the left eye caused no reaction in either pupil. If it was thrown into the right eye in the visual axis, good reaction in both pupils occurred. If the light was moved toward the nose, reaction was obtained in both pupils, also if it was moved toward the temple within an angle of 60 degrees. If it was thrown farther toward the temporal, or blind, side, no reaction occurred in either pupil. The centripetal portion of the arc controlling pupillary reaction was complete only in the right eye, while the centrifugal portions were perfect in both eyes. On November 21st the same reactions were obtained. If light was thrown at an angle of 90 degrees, from the nasal side at any angle, or from the temporal side up to an angle of 70 or 60 degrees, reaction occurred in both pupils, but if the light entered the eye from the temporal side at an angle of 60 to 40 degrees from the horizontal, no reaction was obtained. Vision was now found as follows: L. E. 0, R. E. $\frac{6}{100}$, showing progressive loss during the month.

The lesion in this case, said the author, was probably one of the chiasm, destroying both fasciculi for the left eye, and the fasciculus cruciatus for the right eye.

Case II was one of typical temporal hemianopsia with darkness also of the lower nasal quadrant upon the left side. The patient, forty-one years of age, had been referred to the author by Dr. David Webster. In 1886 he had noticed occasional headaches, with increasing failure of the left eye. There was diplopia at that time. If two objects were present, he saw three; if four, five, etc. Light attacks of vertigo were complained of. There was no history of syphilis in the case. The patient was first seen by the author November 11th. The right eye showed the vertical line of separation passing through the point of fixation. This was the first case in the author's experience, of either central or peripheral origin, of which this had been true. There was right hemiopic pupillary reaction. If light was thrown from the temporal side at an angle more oblique than 60 degrees, no reaction occurred. If thrown from the nasal side or directly into the eye, reaction of both pupils was obtained. In the left eye slight reaction occurred only to central illumination. Vision: R. E. $\frac{8}{200}$, L. E. $\frac{20}{50}$.

The latter was an interesting finding, as the left eye, with the better vision, had a smaller field than the right eye, showing that vision was not measured by the geometrical extent of the field, but rather by the general state of nutrition of the optic nerve. The lesion in this case involved both fasciculi cruciati and the ventral or inferior half of the fasciculus lateralis of the left eye.

Case III was that of a person, twenty-five years of age, also referred to the author by Dr. Webster, from the Eye Department of the Manhattan Eye and Ear Hospital. The patient was first seen October 10th. He had begun to suffer from loss of vision two years previously. At the date of examination the right eye was completely blind. There was general loss of strength, but no history of injury or of syphilis. There was no paralysis, and there was no loss of equilibrium. The dynamometer showed 23° in the right hand, 20° in the left. The left eye showed typical temporal hemianopsia. At a subsequent examination he could read No. 1 Jaeger type at seven inches.

The lesion in this case involved the fasciculus cruciatus for the left eye and irregularly both fasciculi for the right eye.

The author then referred especially to the symptom common to the three cases, called by Wernicke hemiopic pupillary reaction, but which he would designate as hemiopic pupillary inaction; and to its diagnostic value in hemianopsia of central or peripheral origin. The optic arc, he said, consisted of the retina, especially the macula, and the optic nerves for its centripetal portion; and of the anterior group of the corpora quadrigemina, with the nuclei of the motor oculi nerves, the motor oculi, the ciliary nerves, and the iris, for its centrifugal portion. Contraction of the whole iris followed stimulation, because the termination of the ciliary nerves was plexiform in arrangement. The path might be broken by lesion of the centripetal portion, by lesion of the reflex center or the optic lobes, or by lesion of the centrifugal paths. The termination of this—the iris—might be immobile from iritis. In the cases reported, the symptoms had been restricted to hemianopsia. If a pencil of light were directed in the optic axis or moved toward the nose so as to strike upon the temporal half of the retina, good reaction was obtained; also if moved toward the temple up to an obliquity of 60 or 70 degrees; but if it entered at an angle of from 40 to 60 degrees from the horizontal, no reaction was obtained. The light experiment was not exact, because it was impossible to focus the pencil of light exactly. On focusing nearly in the optical axis, crossing of the rays and diffusion with reception upon the temporal or sensitive portion of the retina occurs. Without this diffusion, inaction of the pupil would be noted as soon as the rays of light struck the nasal side of the field, and the experiment would be as exact as the perimeter test. In the examination, the patient should be in a dark room, with the gas-jet or lamp behind him in the usual position for an ophthalmological examination. He should be directed to look toward the farther side of the room, and a faint light from a plane or large concave mirror held out of focus thrown into the eye. Relative relaxation of the iris was thus obtained. A beam of light focused by the ophthalmological mirror was then thrown into the pupil from the optical center and from various angles and the reaction noted. It was especially important that the patient should look at a distant object; the same was true of ophthalmological examinations in tabes, etc.

The author then added a number of rules for determining the location of the lesion in cases of hemianopsia.

Bitemporal Hemianopsia.—Dr. Græme M. Hammond showed a patient for Dr. C. H. Brown. A woman, thirty-seven years of age, who, on August 10th, was suddenly seized with pain in the right eye, the sight of which was lost. The pain spread to the left eye, and in three minutes she was totally blind. The pain continued spreading over the head to the base of the skull. The patient was in bed six weeks. On November 15th she began to walk a little, and under the iodide-of-potassium treatment vision returned so that she could see an object if within two feet of the eye. She could now read newspaper headings, but efforts to do more than this gave pain. Examination showed obscuration of the nasal half of the field, covering the point of fixation in both eyes.

The President had seen the fields drawn by Dr. Francis Valk, and the obscuration was very marked.

Dr. Seguin was able to give a satisfactory demonstration of hemiopic pupillary inaction in this patient.

Dr. Brill proposed three divisions for cases of hemianopsia: those of prosencephalic, mesencephalic, and peripheral origin. Where the pupillary reaction was retained, the two latter would be thrown out, and the lesion would pertain to the cortex or the subcortical expanse.

Dr. Starr suggested that the society owed its thanks to Dr. Seguin for a series of three observations upon so interesting a subject. To make accurate diagnosis possible by the working out of a single symptom was an enviable result. The symptom had been known and its lesions tabulated, especially by Wernicke in his "Gehirnkrankheiten," but not before in the English tongue. The symptom had to be searched for carefully. Unless the physician used the correct method, it would not be found. In many published cases it had undoubtedly been present, but not been discovered. The speaker referred to the fact that Ferrier, in "Brain," vol. vi, had made the escape of the macula a diagnostic point, stating that, where the lesion was located in the chiasm and tract, central vision was impaired; that, where it was located in the cortex or between the thalamus and the cortex, central vision was not impaired. He had formed his new diagram, in the second edition of his "Functions of the Brain," upon this theory, according to which central vision should have been impaired in all of the reported cases. The speaker did not agree with Dr. Brill as to the practicability of classification according to the fœtal development of the brain. The optic nerve was derived from the thalamencephalon, and the retina from the mesencephalon; thus two portions of the neural tube were concerned in the peripheral apparatus.

Dr. Leszynsky had examined two of the patients referred to in Dr. Seguin's paper. The examination was not difficult, though it required care. He considered the head-mirror of assistance in the manœuvre. The term inaction of the pupil he thought misleading.

Dr. Birdsall thought Dr. Seguin's classification practicable and likely to be of service.

Dr. Brill referred to the fact that von Gudden had obtained reaction of the pupil by the use of intense sunlight after division of the optic nerve, showing ganglionic elements in the iris itself, which were able to act independently.

Dr. Seguin found clinical records opposed to Ferrier's classification, for the dividing-line hardly ever passed through the point of fixation in any form of hemianopsia, and he failed to find light on the escape of the macula by any theory of decussation. He was rather inclined to think it dependent upon the structure of the macula, which was somewhat ganglionic in character and decidedly different from that of the remainder of the retina. Before von Gudden, Brown-Séquard had demonstrated the existence of a local mechanism for the contraction of the iris in the lower animals, but there was no evidence that such a mechanism came into play in the human eye.

SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of November 2, 1887.

The President, Dr. Hermann M. Biggs, in the Chair.

Treatment of Abscesses.—Dr. G. de N. Hough, of New Bedford, Mass., read a paper on this subject (see page 731).

Dr. Robert F. Weir opened the discussion by stating that he had not had much personal experience with the method of treatment recommended by the author of the paper, but it seemed to him that the plan of treatment for large abscesses in the region of the neck was rather heroic, and he would not advise its adoption by men who had not had considerable experience in surgery, on account of the danger of wounding one of the large vessels in that locality. The treatment of abscesses in the groin by complete excision he had tried in a few cases with success. Where abscesses were connected with diseased bones, of course it was impossible to effect a radical cure unless the diseased bone was removed, and in many cases this was impracticable; for example, in abscesses connected with caries of the vertebræ. Here the seat of the disease could not be reached. Much good could be done by establishing thorough drainage early.

He had devoted considerable attention to the treatment of two varieties of abscesses—viz., cerebral and perityphlitic. In cases of abscess following otitis media he advised drilling through the mastoid process until a flow of pus indicated that the abscess had been reached. In other cases, when the probable site of the abscess had been determined, it was feasible to remove a button of bone, and, if pus was not found between the dura mater and the skull, to separate the membrane from the petrous portion of the temporal bone and, if fluctuation was felt, incise the membrane. If the abscess was deeper and situated in the brain substance, a director might be carefully introduced into the brain until the abscess was reached, and the opening thus made be carefully enlarged afterward. He had long believed, in regard to perityphlitic abscesses, that it was advisable to open them early—much earlier than was laid down in the text-books—and that as soon as it was reasonably certain that pus was present an incision should be made, as the danger of delay after that time was great. He had had some success in treating glandular abscesses of tubercular character by aspirating the contents, and then injecting a small quantity (about a drachm) of a solution of iodoform in ether. An objection to this method was the great pain which the distension of the cavity caused. He had also employed the solution of iodoform in glycerin.

Dr. J. E. Weeks said that the researches of Ogston, Rosenbach, Paset, Cheyne, and others had established, beyond a doubt, the fact that pyogenetic germs were found in the pus of all acute abscesses, and the results of the experiments of many investigators proved that inoculation of pure cultivations of these germs into the tissue under favorable circumstances produced suppurative processes. Ogston had examined sixty-nine cases of acute abscess, in all of which pyogenetic germs were found. In regard to cold abscesses, the researches of Rosenbach, Cheyne, and Garré, coupled with the admirable clinical observations of Volkmann and König, made it very certain that nearly all, if not all, abscesses of this class were due to the presence of the tubercle bacillus. Rosenbach had examined the pus from two cases of abscess accompanying the development of echinococcus cysts without finding any micro-organisms; however, other observers had found pyogenetic germs in like abscesses.

It was also known that echinococcus cysts might develop, perish, and become sealed up in the tissues without producing pus. The production of pus accompanying the development of actinomycosis in the tissues was probably due to the entrance of pyogenetic germs along the track of the development of the growth, since this development began from the surface, usually of the gums. Israel had stated that the development of actinomycosis might take place in the tissues without the development of pus. The experiments of Councilman, Kocher, Klemerer, Knapp, and others made it certain that mechanical irritation alone would not produce suppuration. Numerous clinical observations of the long retention of bullets, pieces of steel, wood, etc., in the tissues without the production of pus bore out this statement.

Could pus be produced by chemical irritation alone? The experiments of Klemerer, Councilman, and Knapp tended to prove that it could not. Rosenberg and Grawitz had apparently proved that it could. By injections of metallic mercury in quite large quantities into the subcutaneous tissue, Riedel, Rosenbach, and Orthmann had produced abscesses, from the pus of which no growth of germs of any kind could be produced. Grawitz had produced abscesses by the injection of aqua ammoniæ and turpentine-oil into the subcutaneous tissue of dogs; also by the injection of liquids in which certain forms of bacteria had developed, after these liquids had been sterilized at a low temperature, employing the discontinuous method, and by the injection of a 10-per-cent. solution of cadaverine in water. Cadaverine was one of the non-poisonous ptomaines isolated by Brieger. Grawitz was of the opinion that pus was produced by the action of ptomaines, and not by the direct action of the pyogenetic germs on the tissues. All abscess formation met with chemically was undoubtedly due to the direct or indirect action of pyogenetic germs.

The speaker could not see why Dr. Hough used chlorine-water to cleanse the surface at the seat of operation, since there was a much more reliable antiseptic in the bichloride solution (1 to 2,000). Chlorine-water was a very good antiseptic when freshly made, destroying the vitality of pyogenetic germs in exposures of about one minute and one third, but, as shown by recent investigations made by the speaker, the results of which had been embodied in a paper read before the section in Ophthalmology and Otology of the New York Academy of Medicine, October 17, 1887, chlorine-water was very unstable. If corked in the ordinary manner and left at the temperature of the room for twenty-four hours, it required an exposure of four to five minutes to destroy the vitality of germs. If loosely corked for twenty-four hours, exposures of one to two hours were required to destroy vitality. The bichloride of mercury in a solution of 1 to 2,000 was just as quick in the effect produced as the newly prepared chlorine-water, and changed but little on standing; the addition of a little sodium chloride prevented change. A solution of 1 to 20,000 of the bichloride was effective in exposures of fifteen to twenty minutes. Carbolic acid (1 to 40) required an exposure of one minute to destroy the vitality of pyogenetic germs; it acted very slowly on the spores of the spore-forming bacilli. Nitrate of silver (1 to 100) and salicylic acid (1 to 700) were very active germicidal agents. Hydrogen dioxide possessed about the same germicidal effect as chlorine-water, but was even more unstable. If pyogenetic germs were mixed with iodoform or iodol powder and allowed to remain twelve hours, their vitality *was not* destroyed. The only effect that these substances had was to retard growth. Boric acid was not germicidal, nor would it retard growth if the germs were placed in a nutrient food medium after being exposed to its action. Calomel was germicidal in exposures of three minutes. For disinfecting the seat of operation he thought that mechanical cleansing by the use of soap and previously boiled water, to remove coarse dirt and oily substances, followed by the thorough use of a solution of the bichloride of mercury (1 to 2,000), was the most reliable method that we now had.

The speaker presented many cultivations of germs obtained after exposures of varying lengths to the action of antiseptics, principally iodoform.

Dr. **Charles F. Stokes** said that there were certain suppurative processes which he should always endeavor to abort and cause the absorption of the inflammatory products, or treat by a method of which Dr. Hough had not spoken. He had treated a number of cases of suppuration, the result of tuberculous glandular enlargement, when there had been every known sign of the presence of pus, and had succeeded in causing the absorption of the products of inflammation without break in the skin (case referred to Dr. Bull and now under treatment). The plan of treatment consisted in the internal administration of chloride of calcium, gr. v to x, three or four times daily, using compound syrup of the hypophosphites as a menstruum. Locally, he used inunction with a 5-to-10-per-cent. solution of oleate of mercury (diluted with vaseline or lanoline), as well as gentle elastic pressure by means of cotton batting and an evenly applied bandage. He thoroughly appreciated the good effects of operative treatment upon the general health and condition of the patient when extensive suppuration and gland involvement existed.

In the treatment of circumglandular suppuration accompanying syphilis, so often seen in the groin, he had employed a method of operating which he had seen practiced for some time by Dr. C. H. Wilkin, of the New York Hospital, and which consisted in the aspiration, frequent irrigation, and draining of the abscess cavity, resulting many times in a cure, a small punctate cicatrix marking the point of entrance of the instrument. The fluid for irrigation might be the sublimate solution (1 to 1,000), alcohol, or iodine. A few strands of horsehair would drain and keep open the aperture. An antiseptic gauze dressing should be applied. A moderate amount of pressure was a useful adjunct. The importance of avoiding scarring in the genital region was beyond dispute. He had employed a method of treatment similar to Dr. Hough's in a few cases. In one case of suppurating inguinal glands (non-venereal) primary union was obtained. There resulted a concavity (where the glands had been) of some depth at the time of the patient's dismissal from the hospital. This disfigurement and disability which his method of operating caused would make the speaker hesitate before employing it in some localities. There would seem theoretically to result a considerable loss of substance, first, on account of the inflammatory process; secondly, on account of the curetting.

Dr. J. J. **Garmany** coincided in the treatment as applied to cold abscesses, if in certain situations, but he objected to the use of the term "render aseptic," as he contended that a cold abscess *was* aseptic. In regard to the scraping of acute abscesses, he said that it was not necessary, as the walls of such would adhere if the cavity was drained antiseptically in as short a time as in Dr. Hough's reported cases. Concerning the treatment of collections of pus, as in cases of Pott's disease, he maintained that the first treatment should be directed to the source; hence he advocated an opening in the loin and the subsequent treatment, if necessary, of the abscesses in the thigh, etc.

Dr. **Hubbard** stated that while he agreed with Dr. Hough in the main, yet in some points he differed with him. He thought the idea of converting an abscess into an aseptic wound was correct, but did not think it was always necessary to do the quite formidable operation advised by Dr. Hough. He had seen a number of abscesses of comparatively small size heal completely in three or four days by evacuating the contents and thoroughly washing out the cavity with an antiseptic solution. This method of treatment he had described and illustrated by cases in a paper read before the society last year, and he still had so much confidence in the method that he felt almost sure of curing an acute abscess in four or five days. An additional advantage was the formation of little or no scar.

In chronic abscess the cure depended very much upon the cause. If the cause was carious bone, as in Pott's or joint disease, it was impossible to cure the abscess unless the diseased bone was removed, which in many cases was not possible. In his experience, chronic abscesses in connection with joint disease did better if left alone until they opened spontaneously, unless they caused trouble from pressure or burrowing, or became acute in character. He had seen many large abscesses of this character disappear with rest and support to the joint, and he had never seen the slightest constitutional trouble result from the formation of a chronic abscess until after it had been opened. Moreover, it was almost impossible to apply and keep in order a complicated antiseptic dressing, and still allow the patient to go about with an apparatus.

Dr. R. H. **Sayre** agreed in the main with Dr. Hough, but in large abscesses, and especially those connected with joint diseases, the condition of the patient was often so precarious as to prevent the long operation necessary to insure that thoroughness in the removal of the septic matter which was so essential if the wound was to be sewed up, and in such cases he would simply drain the abscess from the most dependent point, and irrigate with antiseptic solutions as often as necessary until the abscess healed, or the patient's condition justified a thorough cleansing of the cavity. In certain cases also the abscess extended so deep between bones that it was impossible to approximate the walls of the abscess cavity, and in such cases, when the patient was feeble, he would advise packing the wound and delaying closing it until the cavity had so filled up with healthy foundations that its walls could be brought into apposition.

In closing the discussion, Dr. **Hough** said that Dr. Weir had objected to laying bare the great vessels of the neck and scraping them with a sharp spoon. Now, in cases where pus was burrowing along these vessels, it was known that there was some danger of perforation. He would prefer laying them bare and carefully scraping their sheath, with the certainty of speedy healing, to taking any chances of spontaneous perforation. If the vascular wall was so far eroded that the necessary scraping gave rise to perforation and hæmorrhage, it was certainly better for this to take place under the surgeon's eye, when everything was ready to avert the impending danger, than perhaps late at night, with the surgeon miles away.

He had been surprised at the experimental demonstration by Dr. Weeks of the inutility of zinc chloride as an antiseptic, and, to account for its good effects in the cases of cellulitis, was obliged to suppose that the coagulum of albuminate of zinc mechanically prevented further migration of microbes into the tissues—*i. e.*, that this coagulum, extending into the surrounding tissues for a distance of about a quarter of an inch, held within itself any organisms present within that area, and carried them away with itself when it was thrown off. The only real objection that he could see to his mode of procedure was in cases where it was of very great importance to leave no scar, for, though usually the scar was small and not noticeable after a few months, this was not always the case. Some such method as that described by Dr. Hubbard might then be preferable.

Wiring of the Patella.—Dr. Garmany related the history of the following case:

J. C., aged forty, was admitted into the Ninety-ninth Street Hospital, June 22, 1887. He had sustained a compound fracture of the right patella from a fall off a ladder a distance of about thirteen feet. The wound, which was situated internally and below the lower border of the patella, was dressed antiseptically. The operation of wiring was performed the same afternoon. The tissues in the exposed joint were contused, and were trimmed by means of scissors. The fracture was nearly transverse, the fragments were widely separated, and the lower cartilaginous surface was softened. A single large wire held the pieces in apposition. The wound healed under two antiseptic dressings in two weeks without constitutional disturbance. A posterior splint was retained for two weeks longer, when the patient was discharged the fifth week with considerable motion in the joint. He returned in three weeks with improved motion. The present condition showed that the motions of the joint scarcely differed from those of the unaffected side.

Thoracic Aneurysm.—Dr. William T. Jenkins presented two specimens with the following histories:

The specimens had been removed from the bodies of two persons who had died suddenly within the last forty-eight hours. They were interesting by contrast; one was so large that it had produced changes in the surrounding tissues by pressure and absorption during its growth, the other so small that one almost wondered why it should have ruptured and produced death.

The first specimen shown was that of a large aneurysm from the body of a woman of uncertain age, though reputed to be thirty-three years old, married, a laundress. She had carried a large basket of clothes to the roof, and while hanging them up suddenly sank down and expired within a few minutes. The only history that could be obtained was from a woman who assisted her in the laundry, who stated that several times the deceased, while working, had said to her, "Place your hand here," indicating the right chest-wall just above the right mamma, where she felt what she described as a "throbbing tumor," which deceased said was the result of turning a heavy wheel with a crank in some former employment. No further history was obtainable, but the manner of death and the character of the tumor as described made the speaker suspect aneurysm. The autopsy revealed cylindrical dilatation of the ascending aorta, a large saccular aneurysm arising from the junction of the ascending and transverse portions. The sac was four inches in diameter; a portion of the anterior wall, which was missing, had been attached to the second and third right costal cartilages and the sternum; the portion of wall remaining had been attached to the eroded second and third ribs. There was a rent in the posterior wall about an inch in length, through which the hæmorrhage took place into the right pleural cavity, which was filled with clotted and fluid blood, causing compression of the lung. The right lung remained attached. This had purposely been left to show the relations to the aneurysm and rupture. The speaker made it a rule to remove the lungs with aneurysms which had ruptured into a pleural cavity, and especially those which had ruptured into the left pleural cavity, for he had found in three cases that the sac was adherent to the left lung, and had ruptured into the lung as well as the pleural cavity, in one case having dissected up the visceral pleura for some distance around. By pursuing the ordinary method—viz., breaking up adhesions and removing the lung—the relations were destroyed, and it was thereby made very difficult to explain the condition found. There had, of course, been hæmoptysis in these cases, as well as hæmorrhage into the pleural cavity. In reading the pathological reports of thoracic aneurysm in the "Medical Times and Gazette," of London, he had found quite a number of cases where there was hæmorrhage from the mouth, with the comment that the cause of the hæmorrhage was not made clear. He thought such comment would be unnecessary if the method he suggested was carried out—namely, removing the lung, the heart, and the aorta together. This suggestion might have been made by some one else, but he had not seen it.

The second specimen was that of an aneurysm of the first part of the arch of the aorta, or the ascending portion, just above the aortic valves. It was from the body of a man, aged forty-one years, white, native of the United States, single; occupation, fireman. He was said to have indulged in all kinds of excesses, and was prematurely aged; he had never complained of any symptoms pointing to aneurysmal or heart trouble, so far as the reporter had been able to learn. To visit friends he had gone out twice, which had rendered the ascent of one flight of stairs necessary, but he did not suffer any apparent inconvenience from it, and was writing a note, when he exclaimed, "I am sick," sank back on the sofa, gasped several times, and expired. His friends, thinking he had fainted, summoned a physician, who responded immediately and pronounced him dead. From the suddenness of the death and his appearance, the speaker had suggested aneurysm. A section of the sternum was removed, with the second, third, and fourth costal cartilages, making a quadrilateral opening in the chest and exposing the pericardium, which was found to be distended with fluid and clotted blood. Through the opening in the chest-wall the heart and a portion of the aorta (the arch) were removed; the small saccular aneurysm shown was found just above the aortic valves. The sac was about an inch in diameter, and in it was a pin-hole rupture.

The speaker simply desired to direct attention, in conclusion, to the difference in size, which was so marked, and to the fact that, although he was not able to get the history in the case of No. 1, the subjective symptoms from pressure during life must have existed, as well as the objective, from the superficial position of the sac and the thinning of the chest-wall, and to the difficulty of diagnosis in the latter case on account of the small size of the aneurysm and the probable absence of inconvenience or symptoms during life. These cases represented a large number of sudden deaths which had come under his observation as coroner's physician in which autopsies had been obtained. A physician, when summoned to a case of sudden death, and without any clinical or other history, as a placebo to friends gave the diagnosis apoplexy or heart disease.

In conclusion, he desired to say that he believed, from experience, that the greater number of those cases of actual sudden death were from aneurysm of the arch of the aorta, and not from either apoplexy or heart disease. Apoplexy, as a rule, did not cause death without an appreciable length of time except in extremely rare cases, and heart disease would most often present premonitory symptoms.

Asiatic Cholera.—Dr. R. J. Carlisle said that on a recent visit to Swinburne Island Hospital he had seen the following cases of Asiatic cholera: One in an adult in the stage of invasion, or prealgid stage; three in infants in the algid stage; one in a boy and five in adults in the stage of reaction—in all, ten cases.

He had made the following short notes:

Stage of Invasion.—A man, sick for about ten hours, had had three movements during the previous night and two during the morning. He reported himself as not at all sick. The absence of symptoms was all there was to note in this case.

Stage of Collapse.—The patients were infants, sick for about ten hours. They were lying in an apathetic state, with hollow eyes, pinched nose, dry and parched skin, and face of a leaden hue—in short, the Hippocratic countenance—eyes all but closed, sordes upon the teeth and upon the nose, emaciation extreme, extremities markedly cyanosed—all the symptoms, in fact, of death itself. One had to look intently to see if the patient was really alive. Respirations very shallow and not frequent; so far as this symptom went, the patient might be thought to be in a peaceful sleep. Expired air icy cold. Pulse very small and very weak and surprisingly slow, hardly more than 60, and this in a child of eighteen months. Temperature, axillary, 94°; rectal, 95+° F. The condition of the second child was not so desperate. It could be aroused. It was given a little milk, which was immediately ejected by projectile vomiting. The symptoms in this stage to be particularly noted were the very slow, gaseous pulse, the low temperature of the expired air, and the appearance of the countenance.

Stage of Reaction.—The patients had been sick about thirty-four hours. The reporter had been astonished at their good condition, considering that on the previous day they had been as bad as any he had seen to-day. The boy, while running across the room the day previous, had suddenly fallen down, and passed his dejecta on the floor. He was soon in collapse, but now was practically well. Two patients were passing into a typhoid state—one with suffused conjunctivæ and dusky face, a good deal like the facies of typhus fever; the other, slightly delirious; both with a temperature a little elevated above normal, and the pulse somewhat increased. The patients in this state of reaction took notice of everything transpiring about them, and when told to protrude the tongue did so without difficulty. It was slightly moist, and covered with a whitish coat. The most distressing subjective symptom was an intense thirst. The patients complained a little of abdominal pain. As regards the dejections, the reporter would have had a more correct idea of their appearance had he heard them compared to oyster- or clam-soup, rather than to rice-water.

Iodoform Poisoning.—Dr. Sayre reported a case of iodoform poisoning following packing of a large abscess cavity with iodoform gauze, no loose iodoform being used. On the third day the patient's temperature rose, she had nausea, great depression attesting iodoform, and her kidneys, which had not been in very good condition before, in consequence of long-continued suppuration, began to fail. Ether had been used as an anæsthetic, and this perhaps might have caused the congestion of the kidneys. The change of iodoform gauze to sublimate gauze in the wound-packing was followed by disappearance of all symptoms except the œdema, which still persisted. In spite of treatment, the patient was now passing only from eighteen to thirty ounces of urine daily, of a sp. gr. 1·006, loaded with albumin, but with very few casts. He wished to call attention to the danger of ether as an anæsthetic where there was any kidney complication, and also to the fact that iodoform intoxication could occur from the packing of a wound with iodoform gauze when no loose iodoform had been used.

The President presented some specimens of the **Cholera Spirillum** and called attention to its diagnostic value in doubtful cases of Asiatic cholera. (See "N. Y. Med. Jour.," November 12, 1887.)

Dr. Sayre asked the president if there was not danger, in the careless handling of cultivation tubes, that the cholera germs might be scattered broadcast and give rise to a serious epidemic.

The President said that this possibility had been considered so probable and so serious by the German government that a law had been passed preventing any but specially authorized persons from making cholera cultivations.

Book Notices.

The Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By Ira Remsen, Professor of Chemistry in the Johns Hopkins University. Third edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1887. Pp. xi-13 to 318. [Price, $2.]

It is a healthful sign when we see a demand for a third edition of such a book as this. It shows a widening study of the more scientific part of chemistry, as well as an appreciation of the most fascinating metaphysics of molecular change and constitution.

This edition is larger than the last by about seventy-five pages, and much of it has been rewritten, thus bringing it fully abreast of the latest investigations and chemical abstractions.

In our busy age, when there is so much reading required to keep the student well informed, it is fortunate that a man so well fitted for the task as Dr. Remsen is willing to lay down his own work and condense the thoughts and theories of others for our use.

All the authors to which he refers us are very voluminous, and in the case of M. Patterson Muir so full of detail as to be wearisome.

Even to a person not specially interested in chemistry or chemical physics this little book would be interesting as showing the gradual and sure evolution of a science.

The constantly increasing number of combinations discovered makes a classification necessary; and classification calls for reasons. The offering of reasons makes fresh classification necessary, and directs observation into new paths.

We commence with the simple law of definite proportion, where Dalton's investigations led to that of multiple proportions, with his atomic theory, which is now the oldest theory of our modern chemistry, all before having been found inadequate.

Full reference is made to the work of Gay-Lussac, Avogadro, Dulong, and Petit, with the natural grouping and arrangement of the elements by Mendelejeff and L. Meyer. The chapter on valence is full and clearly written. The remainder of the book is given up to the consideration of the constitution of molecules, or rather the structure of chemical compounds. This method of considering chemical compounds is the most fascinating part of the study of chemistry, and one can not fail to be interested in the ingenuity displayed. One is also surprised to observe how these theories of structure have led to fresh discoveries.

It is strange that, so far as we know, no attempts have been made by medical men to use these theories of structure to account for the action of certain remedies, and to reason as to potency by replacing members of certain classes by those of higher or lower molecular weight or modifications of radicals, forming a part of the remedy.

The medical reader will recognize under scientific names many bodies known to him only in pharmaceutical jargon.

BOOKS AND PAMPHLETS RECEIVED.

The Practice of Medicine and Surgery, applied to the Diseases and Accidents Incident to Women. By W. H. Byford, A. M., M. D., Professor of Gynæcology in Rush Medical College, Chicago, etc., and Henry T. Byford, M. D., Surgeon to the Woman's Hospital of Chicago, etc. Fourth Edition. Revised, rewritten, and very much enlarged. With Three Hundred and Six Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xxiii–17 to 820. [Price, $5.]

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1887.

The Rectum and Anus: their Diseases and Treatment. By Charles B. Ball, M. Ch. Univ. Dub., F. R. C. S. I., Surgeon to Sir Patrick Dun's Hospital, etc. With Fifty-four Illustrations and Four Colored Plates. Philadelphia: Lea Brothers & Co., 1887. Pp. viii–410. [Price, $2.25.]

Health Lessons. A Primary Book. By Jerome Walker, M. D., Lecturer on Hygiene at the Long Island College Hospital, and on Physiology and Hygiene at the Brooklyn Central Grammar-School, etc. New York: D. Appleton & Co., 1887. Pp. 4–7 to 194.

Los Antoios en 1623. Por el Dr. A. de la Peña, Medico Oculista, Director de un dispensario oftalomológico, etc. Madrid: Tipografica del hospicis.

A Case of Gastrostomy for Cancer of the Œsophagus. By J. Collins Warren, M. D., Associate Professor of Surgery, Harvard University, etc. [Reprinted from the "Medical Record."]

A Contribution to the Sectional Anatomy of Advanced Extra-uterine Gestation. By D. Berry Hart, M. D., F. R. C. P. E., etc., and J. T. Carter, F. R. C. S. E., F. F. P. S. G., etc. (Read before the Edinburgh Obstetrical Society, July 13, 1887.) [Reprinted from the "Edinburgh Medical Journal."]

Sixth Annual Report of the Hospital for Women and Children, Newark, N. J., together with the Certificate of Incorporation and By-laws of the Board of Managers, November, 1887.

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

Osteoplastic Resection of the Tarsus.—Link ("Ctrlbl. f. Chir.," No. 36) describes the following operation as applicable in certain cases of disease of the anterior tarsal bones where the posterior bones are quite or nearly free from disease, and the metatarsus also is not involved. In many points it resembles the operation lately described by Bardenheuer. Two parallel incisions are made across the dorsum of the foot, the first corresponding to the incision for Chopart's amputation, the second over the bases of the metatarsal bones. The ends of these are then connected by longitudinal incisions along the inner and outer borders of the foot. The first incision is then deepened, and the head of the astragalus sawn through in its greatest diameter, in a direction backward and downward. If this bone is involved beyond this section, the diseased portion must be scraped away. The ligaments between the cuboid and os calcis are then cut, and the tarsal bones dissected free from the soft parts as far forward as the bases of the metatarsal bones. The metatarsal bones are then sawn through near their bases in a direction forward and downward, and the tarsal bones so separated are removed. The diseased portions of the soft parts must be carefully removed with scissors and the sharp spoon. The sawn surfaces of bone are then drawn into apposition, if possible, and secured, and the soft parts are coaptated. A patient operated on in this manner is reported by the author as cured three months and a half after operation. He maintains that the retraction of the soft parts over the heel obviates the formation of a transverse ridge across the sole of the foot.

Cysts of the Female Urethra.—De Bary ("Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," Bd. cvi, p. 65; "Ctrlbl. f. Chir.," No. 29) describes two cysts of the female urethra examined by him. One was the occasion of an operation on a child two years old; the other was found during an autopsy on a woman twenty-three years of age. In both cases the swelling was near the external orifice of the urethra on its posterior wall. In the first case the tumor hung from the vagina; in the second it was situated in the tissue between the urethra and vagina, causing retention of urine with dilatation of the bladder, the ureters, and the pelves of the kidneys. In the child the cyst measured three cm. in diameter; in the other case it was as large as a hen's egg. The contents in the one case were purulent, in the other clear and tenacious. In each the epithelial lining was similar to that of the urethra. De Bary considers that both of them probably originated as retention cysts of the lacunæ of the mucous membrane of the urethra.

Extraperitoneal Exploratory Operations.—Bardenheuer ("Deutsche med. Wochenschrift"; "Ctrlbl. f. Chir.," No. 34) recommends extraperitoneal incisions to be made for exploratory purposes, instead of intraperitoneal, as is now to a considerable extent customary. He maintains that through these incisions the abdominal organs can be plainly felt without opening the peritoneal cavity. These incisions he makes in one of three places—in the loins, over the symphysis, or along the lower border of the thorax. In the loin the incision may extend from the eleventh rib to the middle of the crest of the ilium, or it may be parallel to the last rib, extending beyond the vertebral column, or it may be along the crest of the ilium. Over the symphysis the incision is made horizontally, and may extend right or left as needed. Along the lower border of the thorax one can dissect as far inward as the tendinous portion of the diaphragm.

Chloroform and Oxygen as an Anæsthetic.—Kreutzmann ("Ctrlbl. f. Chir.," No. 35) reports the use of a mixture of chloroform and oxygen for the purpose of anæsthesia. He paints its advantages in glowing colors, stating that the needful amount of chloroform is small, that the patients quickly pass under its influence, with a very slight, if any, period of excitement, that any required degree of narcosis can be obtained, and that the patients awake from its influence with no nausea, stupefaction, or other unpleasant symptom. In its action it bears many points of resemblance to the mixture of nitrous-oxide gas and chloroform. It has not yet been tried sufficiently to determine its safety as compared with other methods of administering chloroform, but Kreutzmann observed that in deep anæsthesia the frequency of the pulse was lessened.

Hydrocele.—McArdle ("Dublin Jour. of Med. Sci.," Sept., 1887), after an analysis of reported cases of hydrocele treated by injection, incision (Volkmann), partial resection (Julliard), and complete resection of the parietal tunica vaginalis (Bergmann), shows that the length of time required for a cure by any method differs only a little from that required by any other. The dangers attending injection appear to be fully as great as those of other methods. Recurrence happened in one case out of eight treated by injection, in one out of forty-seven treated by incision, and not at all after excision. Finally, the author considers injection the most generally useful method, but that when this has failed the hydrocele should be laid open. Then, if there exists periorchitis, with a great thickening of the sac, complete resection of the parietal portion of the tunica vaginalis is best. If the sac is thick and freely movable, and there is no periorchitis, partial resection may suffice. If the membrane is very thin, partial resection may result in temporary relief only, and had better be avoided.

Laparo-colotomy.—Ball ("Dublin Jour. of Med, Sci.," Aug., 1887) urges the adoption of abdominal instead of lumbar colotomy as affording the following advantages: A thorough exploration of the peritoneal cavity is permitted, the large intestine is easily and certainly found, the opening is certain to be made above the seat of obstruction, a shorter distance of intestine intervenes, as a rule, between the opening and the seat of disease, the lower lumen can be more readily closed when this is thought best, a more radical operation is allowed when practicable, the skin and mucous membrane can be more closely coapted, and the position of the wound is a more convenient one for the patient. The sole disadvantage is the wounding of the peritonæum. Extensive meteorism he considers the only contra-indication, as it furnishes a serious complication to the manipulative details of laparo-colotomy by causing prolapse of the small intestine.

Urethral Calculus.—Mr. W. H. Brown ("Lancet," Sept. 24, 1887) reports the removal of an oval calculus, two inches and a quarter long, two inches and a half in circumference at the widest part, weighing 265 grains, from the penile portion of the urethra of a man thirty-six years old. The patient had had pain and difficulty in micturition for ten years, and for several years had noticed a swelling extending backward from the glans. Contrary to what might have been expected, it appeared to have afforded no hindrance to sexual intercourse, and until that time had not caused sufficient pain to induce the patient to seek relief.

Thyreoidectomy.—A case of thyreoidectomy, performed for hypertrophic goitre, in a girl fourteen years old, in 1884, is reported in the "Lancet" for Sept. 24, 1887. Three years after the operation the patient was quite well, and presented no symptoms of myxœdema.

Epithelioma of the Penis.—Dr. Boone recommends ("Lancet," Oct. 1, 1887), as a modification of Pearce Gould's method of amputation of the penis, a division of the operation into two, forming the new urethra prior to the removal of the penis. When the patient is feeble, it is a distinct gain to have no danger of trouble about the urethra at the time of the principal operation.

Detection of Renal Calculus.—Lloyd ("Practitioner," Sept., 1887) suggests the following method of exploration for renal calculi as more reliable and quite as easy as needling or palpation: The kidney being exposed by a lumbar incision, a puncture is made at its lower end into the lowest of the calices with a tenotome. Through this opening is passed a child's bladder-sound, with which the entire pelvis, tubes, and calices may be investigated.

Nephrorrhaphy.—The same author (*ibid.*), in securing wandering kidneys in position, excises a portion of the capsule of the kidney in order to obtain more abundant and stronger adhesions by the involvement of the kidney itself in the resulting cicatrix than is obtained through the loose and more lowly organized fibrous tissue surrounding the kidney.

Intussusception.—Mr. Bell ("Edin. Med. Jour.," Sept., 1887) records a case of intussusception in which he states that a natural cure took place on the twenty-fourth day, a piece of dead ileum nine inches long being passed from the rectum. Unfortunately, the patient died the next day with symptoms of cerebral embolism.

Old Fractures of the Patella.—Von Bergmann ("Deutsche med. Wochenschrift"; "Ctrlbl. f. Chir.," No. 34) recommends chiseling off the tuberosity of the tibia in old cases of fractured patella in which the fragments can not be approximated sufficiently to suture. The fragments can then be secured in apposition, while the tuberosity is held in position by the surrounding soft parts.

Intestinal Suture.—Halsted ("Am. Jour. of the Med. Sci.," Oct., 1887) has demonstrated by experiments on dogs that in suturing the intestine it is necessary to include in the suture a portion of the submucosa, which is the toughest of the various layers. If only the serous and muscular layers are included, the sutures tear out easily and can not be trusted to. Before resection of a portion of intestine he recommends that five or six presection sutures should be inserted to counteract the eversion of the mucous membrane, which otherwise is troublesome. The plain quilt suture, which he describes, he considers preferable to Lembert's, for the reasons that one row is sufficient, they tear out less easily, constrict the tissues less, and secure more accurate apposition of the peritoneal surfaces. For irrigating purposes during the operation he considers that solutions of corrosive sublimate stronger than 1 to 20,000 should not be employed.

Contusion of the Abdomen and Rupture of the Intestine.—Curtis (*ibid.*) makes a valuable contribution to abdominal surgery under this heading. It consists mainly of an experimental study on dogs and the cadaver, concluding with an analysis of reported cases. His conclusions are that rupture of the intestine is produced by the intestine being crushed between the contusing body and the bony parts, and that partial distension, especially of a large portion of the intestine, diminishes the danger of rupture. The most common causes of death after contusion of the abdomen are hæmorrhage and shock. Some patients with otherwise fatal hæmorrhage, threatened gangrene, and rupture of the intestine can be saved by immediate operation. Still, the treatment of contusion of the abdomen should be expectant until symptoms of internal injury have appeared, or until the full extent of time within which they may be expected has passed. The appearance of symptoms of hæmorrhage or grave visceral injury indicates immediate laparotomy, unless the patient is in collapse. In rupture of the intestine it is better to make an artificial anus, which may be closed subsequently, than to subject the patient to the additional shock of a resection.

Miscellany.

The Philadelphia "Press" and the "Medical Register."—Under date of December 21st, Mr. W. B. Merrill, the managing editor of the "Press," wrote to Dr. John V. Shoemaker, the editor of the "Medical Register," as follows:

"I regret to see that the 'Medical Register,' which did not make public a correction which I sent it nearly three months ago, in regard to Dr. I. Minis Hays, has in its last issue repeated its original misstatement and added another. It is true that the 'Press' declined the proffered services of a well-known physician of this city to report the recent International Medical Congress, but it is untrue that it wrote to him that arrangements had been made with Dr. I. Minis Hays. The statements of the 'Register,' both in the first instance and now, are, as far as Dr. Hays's responsibility for the 'Press' dispatches is concerned, wrong in every particular. I hope that the earnestness and plainness with which this fact is stated does not seem discourteous. I need not add that the 'Press' has no interest or concern in the matter beyond the desire to relieve Dr. Hays of a responsibility which does not in the remotest way belong to him."

The New York Neurological Society.—At the next meeting, January 3, 1888, Dr. James J. Putnam, of Boston, the president of the American Neurological Association, will read a paper on "Epilepsy in the Adult."

Government Health Reports.—By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, has issued the following abstract of sanitary reports received during the week ending December 23d:

(Published in accordance with Section 4, act approved April 29, 1878.)

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending December 3d corresponded to an annual rate of 22·5 in a thousand of the aggregate population, which is estimated at 9,244,099. The lowest rate was recorded in Brighton, viz., 15·5, and the highest in Newcastle-on-Tyne, viz., 35·6 in a thousand. Small-pox caused 25 deaths in Sheffield and 1 in Bristol.

London.—One thousand seven hundred and four deaths were registered during the week ending December 3d, including 26 from measles, 53 from scarlet fever, 28 from diphtheria, 67 from whooping-cough, 1 from typhus, 23 from enteric fever, and 14 from diarrhœa and dysentery. There were 455 deaths from diseases of the respiratory organs. Different forms of violence caused 64 deaths, and 3 suicides were registered. The deaths from all causes corresponded to an annual rate of 21·1 in a thousand. In greater London 2,151 deaths were registered, corresponding to an annual rate of 20·7 in a thousand of the population. In the "outer ring" 15 deaths from diphtheria, 13 from measles, 9 from "fever," and 18 from whooping-cough were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending December 3d in the sixteen principal town districts of Ireland was 22·5 in a thousand of the population. The lowest rate was recorded in Armagh, viz., 5·2, and the highest in Newry, viz., 42·1 in a thousand.

Dublin.—Two hundred and thirty-seven deaths were registered during the week ending December 3d, including 8 from measles, 4 from whooping-cough, 13 from scarlet fever, 1 from diphtheria, 2 from enteric fever, and 2 from diarrhœa. Diseases of the respiratory organs caused 61 deaths. Three accidental deaths were registered, and in 36 instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 35 in a thousand.

Scotland.—The deaths registered in eight principal towns during the week ending December 3d corresponded to an annual rate of 25 in a thousand of the population, which is estimated at 1,299,000. The lowest mortality was recorded in Greenock, viz., 17·1, and the highest in Paisley, viz., 37·6 in a thousand. The aggregate number of deaths registered from all causes was 624, including 12 from measles, 13 from scarlet fever, 5 from diphtheria, 28 from whooping-cough, 9 from fever, and 10 from diarrhœa.

Montevideo.—Four hundred and twenty-seven deaths were registered during the month of September, 1887, including 44 from small-pox and 6 from enteric fever.

Bordeaux.—Four hundred and seventy-one deaths were registered during the month of November, 1887, including 4 from small-pox and 11 from enteric fever.

Marseilles.—Seven hundred and twenty-eight deaths were registered during the month of November, 1887, including 2 from small-pox and 32 from enteric fever. The United States consul reports the arrival, on November 30th, of the British steamer Rohilla, on board of which a Lascar fireman had died of cholera four days before reaching Marseilles. The Rohilla was detained in the outer roadstead several hours by the health officer, but a thorough inspection made it apparent that every precaution had been taken on board, and the steamer was permitted to enter this port, complete her cargo, and clear for London.

Athens.—The United States consul reports, under date of November 26, 1887, that "the quarantine on arrivals from Malta and Sicily (except from the port of Messina) has been reduced to a quarantine of observation of five days."

Santiago de Cuba.—The sanitary inspector reports for the week ending December 10th, 3 deaths from yellow fever and 2 cases remaining under treatment at the military hospital. In the town no cases have been reported, and the harbor is free from yellow fever at present. Small-pox and scarlet fever have entirely disappeared. The inspector says he has news that the "Thomas Brooks, which sailed from there to Guantanamo, and thence to the United States, had to put into Nassau for medical assistance on account of yellow fever and small-pox on board."

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—						
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Paris	December 3.	2,260,045	949	..	....	8	....	38	8	23
Glasgow	December 3.	545,678	261	.	....	....	....	....	8	4
Warsaw	November 26.	439,174	221	..	....	13	....	....	6	9
Calcutta	November 5.	433,219	243	12	....	....	....	....	....	....
Rome	September 30.	373,356	205	..	....	14	....	2	....	....
Rome	October 22.	373,356	204	..	....	6	....	9	1	2
Rome	October 29.	373,356	194	..	....	7	....	7	1	....
Rome	November 5.	373,356	202	..	....	8	....	6	....	4
Copenhagen	November 29.	290,000	135	..	....	....	....	1	5	2
Munich	November 19.	269,000	118	..	....	....	....	....	....	8
Edinburgh	December 3.	258,629	109	..	....	....	....	2	2	1
Palermo	December 4.	250,000	128	..	....	....	....	....	1	4
Bristol	November 19.	223,695	83	..	....	....	....	....	1	....
Bristol	November 26.	223,695	102	..	....	1	....	1	9	....
Bristol	December 3.	223,695	94	..	....	1	....	2	5	....
Havana	December 10.	208,000	147	..	1	53	....	....	...	....
Genoa	December 3.	179,517	101	..	....	8	....	....	1	1
Leipsic	December 3.	170,000	58	..	....	...	....	1	2	4
Trieste	November 26.	150,157	97	..	....	12	....	....	2	3
Havre	December 3.	112,074	60		....	3	....	5	....	....
Pernambuco	November 15.	111,000	57	..	..	....	1	1	....	....
Reims	November 26.	97,903	35	..	....	....	....	....	....	3
Reims	December 3.	97,903	52	..	....	....	....	....	....	5

UNITED STATES.

Tampa, Fla.—A few scattering cases, mild in character, are reported as still remaining at Tampa, and, as the quarantine has been raised, refugees are returning.

The Health of San Francisco.—According to the Health Department's "Condensed Statement of Mortality," for November, 534 deaths were reported during the month, including 2 from cholera morbus, 9 from cholera infantum, 29 from croup and diphtheria, 7 from dysentery, 5 from diarrhœa, 2 from erysipelas, 17 from typhoid fever, 1 from malarial fever, 1 from measles, 3 from pyæmia, and 4 from small-pox.

The Circular Letter Nuisance.—We have received a letter from a distinguished physician of New York in which, referring to the subject of which we spoke last week, in an article entitled "Private Ventures in Collective Investigation," he says: "But lately I had to write to such a pirate. I had no 150 hours to waste on such as him, but they turn up all the time. If your article is not salvation, it is certainly consolation, for it proves that you know our sufferings and take pity on us."

ANSWERS TO CORRESPONDENTS.

No. 115.—The assertion, often heard, that infectious diseases attack only those who stand in undue dread of them is not worth serious refutation. Still, you will sometimes find yourself in a position where it is a positive duty to convince the timid of its fallacy. The best argument that we know of for the purpose is to call attention to the fact that infants and the domestic animals are not exempt from those diseases.

No. 116.—Only two of the men you mention are still living.

No. 117.—The glycerin acts by abstracting water from the tissues.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

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